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Addresses

NEUROLOGIC TEACHING IN AMERICA.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES, CHICAGO, 1908.

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PHILADELPHIA.

HISTORICAL.

A more brilliant exponent of the teaching of neurology and psychiatry than Benjamin Rush, who in the latter part of the eighteenth century first inaugurated such instruction in this country, would have been difficult to select. In a lecture on "The Necessary Connexion Between Observation and Reasoning in Medicine," delivered Nov. 7, 1791, before the medical students of the University of Pennsylvania, Dr. Rush outlined a course of lectures which he was about to give. He divided the institutes of medicine into physiology, pathology and therapeutics. Under physiology he stated: "I shall include the faculties of the mind in this part of our course and shall endeavor to explain their operation in a manner so simple as to make them intelligible to the youngest student of medicine."

A syllabus of these lectures, with the additions which became necessary after the author undertook to teach the practice of medicine, was subjoined to this lecture.

Under the head of physiology, among other divisions, he has that of the nervous system in which are included the offices of the brain, nerves and muscles, and under faculties and operations of the mind he takes up its subdivisions, such as instinct, memory, imagination, understanding, will, passions, emotions, faith, etc.

Under practice of medicine he discusses "the diseases as they appear in the blood vessels and nervous system, in the latter of which are included the nerves, muscles, brain and mind, and the alimentary canal predominating in each of them more or less according to circumstances."

It will be seen from the above that Rush was in the habit of discussing at length in his medical lectures the nature and phenomena of diseases of the mind and of the nervous system. Doubtless his work on "Diseases of the Mind," which was first published only a few months before his death, was the ripe fruit not only of years of study and observation, but also of teaching. This treatise was the fifth volume of his principal works in seven volumes, which is entitled "Medical Inquiries and Observations on Diseases of the Mind," and appeared first in 1812, passing through several editions.

It would hardly seem necessary at this time to emphasize again the important place in the history of medicine occupied by Benjamin Rush were it not for the fact that, so far as I know, after his death in 1813 and until 1870, a period of fifty-seven years, no systematic teaching in psychiatry was attempted in any medical school in this country. Not only that, but his work on psychiatry was the only systematic American treatise on this subject until the year 1883, when William A. Hammond and C. E. Spitzka and later E. C. Mann published text-books on insanity.

FIRST LECTURESHIP ON NERVOUS DISEASES.

Doubtless diseases of the nervous system as distinctive from diseases of the mind were taught from the time of Benjamin Rush under the head of practice of medicine. It was not, however, until 1867 that the first distinctive lectureship on diseases of the nervous system was established in the Bellevue Medical College in New York City. In that year Dr. William A. Hammond first taught this subject. This distinguished physician after having been Surgeon-General in the United States Army went to New York and soon after his arrival became interested in editorial work, and for five years, beginning with 1867, he edited the *Quarterly Journal of Psychological and Medical Jurisprudence*. Later he also edited the *New York Medical Journal* and the *Journal of Nervous and Mental Disease*. He was appointed professor of nervous and mental diseases in the Bellevue Hospital Medical College in 1867, this probably being the first professorship in nervous diseases held in this country. He taught there for six years and in the University Medical College for nine years more. In 1871 the first edition of his book on nervous diseases appeared. Although it was a complete treatise, it was published as a second volume to "A Treatise on the Physiology and Pathology of the Nervous System," the fourth volume of Dr. Austin Flint's "System of Physiology" forming Volume I. The first edition was soon exhausted, and a second was put out without reference to the volume on physiology. This was the first distinctive book on diseases of the nervous system by any American writer and found such favor that it was translated into most of the foreign languages.

A year later a lectureship on diseases of the nervous system was established in the College of Physicians and Surgeons, New York City, now the medical department of the Columbia University. The first lectures were given by Dr. E. C. Seguin during the summer session of 1868, and the first clinic for diseases of the nervous system was announced in 1874 and was given by Dr. Seguin. This was the beginning of clinical teaching in New York City. He was succeeded by Dr. M. Allen Starr, who still holds the position.

About this time, that is, in 1864, Dr. J. Hughlings Jackson made his memorable suggestions that movements of the various parts of the body are controlled by special convolutions, and in 1868 he first applied the

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principles of evolution and dissolution to the study of language. It was undoubtedly through the enthusiasm created by the work of this master, combined with the researches of Hitzig, Fritsch, Ferrier and later of Charcot, that diseases of the nervous system gained an additional and renewed importance, and from this time began a new era in neurology.

THE FIRST NEUROLOGIC PAPERS.

In America the first neurologic papers appeared between 1864 and 1874 when Dr. S. Weir Mitchell, of Philadelphia, published a number of important contributions to neurology, the first being his celebrated work on "Injuries of Nerves," in collaboration with Morehouse and Keen; while in 1874 Dr. J. J. Putnam, of Boston, with the assistance of Drs. Bowditch and James, experimented with faradic currents on the cortex and subcortex.

Following the lead of the Bellevue Medical College and the College of Physicians and Surgeons of New York, other medical schools soon fell in line. In 1871 Dr. H. C. Wood was appointed lecturer on nervous diseases in the University of Pennsylvania and in 1873 he was made clinical professor.

In the West, Dr. J. S. Jewell was appointed in 1872 professor of nervous and mental diseases in the Chicago Medical School, now the Medical Department of Northwestern University. Dr. Jewell took a leading part in organizing the American Neurological Association, and was not only its first president, but occupied that honored position for five years. As a matter of history it is interesting to record that Dr. S. Weir Mitchell was elected the first president and Dr. Jewell the first vice-president, but for personal reasons Dr. Mitchell declined to serve and Dr. Jewell became the first president. Dr. Jewell also in 1875 founded the *Journal of Nervous and Mental Disease*.

In Boston, Dr. J. J. Putnam was first made lecturer in neurology in 1872 at Harvard University, and after occupying various positions was made professor of diseases of the nervous system in 1893, when the department of neurology was made separate.

BEGINNING OF SYSTEMATIC INSTRUCTION.

Although from this time on professorships in neurology were established in nearly all the medical schools, it was not until within a few years that systematic teaching was attempted, for, curious as it may seem, although the general medical public, as a rule, recognizes the importance of neurology as a distinct branch, in some of the medical schools neurology is still regarded as part of the general course in medicine. In Harvard, for instance, it was made a separate department in 1893, while in the University of Pennsylvania it was not until shortly after 1901, when Dr. Charles K. Mills was made clinical professor of nervous diseases, that the department of neurology became separate from that of medicine, and this subject was for the first time taught entirely by its members. It was also at this time that systematic ward class teaching was first instituted.

The teaching of neurology was not confined exclusively to the medical schools, for in various nervous clinics and hospitals which were established in different parts of the country independent neurologic teaching was done. Among the best known of these, and probably the first neurologic clinic in this country, was the Orthopedic Hospital in Philadelphia, which was established in October, 1867, the neurologic department of which, designated as the infirmary for nervous diseases, being opened in 1870 with Dr. S. Weir Mitchell in charge and Dr. Wharton Sinkler and others as assistants. The out-patient department in this clinic is enormous, and here such well-known men as Drs. S. Weir Mitchell, Wharton Sinkler, Morris J. Lewis, J. K. Mitchell and others taught and are still teaching. It was from this clinic that Dr. S. Weir Mitchell published his "Clinical Lessons."

ESTABLISHMENT OF NERVOUS WARDS.

No American neurologic history would be complete without some reference to the nervous wards of the Philadelphia Hospital, which were established in 1877 through the energy and far-sightedness of Dr. Charles K. Mills. These wards which had thirty-five patients in 1878 now have on an average about four hundred organic nervous cases, this being undoubtedly the best collection of nervous material in any one hospital in America and possibly the equal of any abroad. From 1877 patients from these wards have been used for clinical teaching, first by Dr. Mills and later by such men as Wood, Bartholow, Dercum, Lloyd, Sinkler, Burr and others.

Electro-therapeutics as a department of neurology began to be taught about the year 1875 by Neftell and Beard and Rockwell, of New York. Beard and Rockwell were the first to write a book on this subject, it being entitled "A Treatise on the Medical and Surgical Uses of Electricity," published in 1881. In Philadelphia Dr. Charles K. Mills was appoited lecturer on electro-therapeutics in the University of Pennsylvania in 1877.

Neuropathology as a distinctive branch and under that name was taught by Dr. E. W. Taylor, of Boston, in the spring of 1894 in Harvard University, although this subject was undoubtedly taught previously under the head of pathology. Dr. William G. Spiller was the second to teach neuropathology, he being appointed assistant professor of neuropathology in the University of Pennsylvania in 1901 and in 1903 full professor. Since then similar positions have been created in Harvard, the Medico-Chirurgical College of Philadelphia and elsewhere.

Before discussing the present methods of teaching neurology, it might be well to briefly review the history of the teaching of psychiatry. After Benjamin Rush there were no lecturers on insanity until 1867, when Dr. William A. Hammond taught in the Bellevue Hospital Medical College, and following him Dr. E. C. Seguin in the College of Physicians and Surgeons of New York in 1871.

In Philadelphia psychiatry was not taught until 1870, when Dr. Isaac Ray was appointed lecturer on insanity in the Jefferson Medical College of Philadelphia. He taught during the spring sessions of 1870-1872 During the time that he was engaged in lecturing and partly with the view of illustrating his remarks Dr. D. D. Richardson, then superintendent of the insane department of the Philadelphia Hospital, gave clinical demonstrations on insanity to students at the hospital. Not only was Dr. Ray one of the earliest physicians in the United States to follow the example of Rush and pay special attention to the study of psychiatry, but he was the first to write a book on the "Medical Jurisprudence of Insanity," it being published in Boston in 1838. After him Dr. Charles K.

Mills taught psychiatry in the University of Pennsylvania, being appointed lecturer on mental diseases 1881 and being later made professor of mental diseases and of medical jurisprudence in 1893. In Boston the first teaching was done by Dr. C. F. Folsom, who lectured on mental diseases in Harvard University in 1877.

In discussing the methods now employed in teaching neurology in the medical schools of America, it will be manifestly impossible to review all; consequently only four have been selected, these being the medical departments of Harvard, Cornell, Pennsylvania and Northwestern universities. Attention, however, has also been paid to the methods of other schools, chiefly of Columbia and Bellevue of New York, Jefferson and the Medico-Chirurgical in Philadelphia, Johns Hopkins, Baltimore, and Rush Medical College in Chicago, the courses in which do not differ radically from those in the four institutions selected for analysis.

METHODS AT HARVARD.

Perhaps the most elaborate course in both nervous and mental diseases is given in Harvard. Here the department of neurology has been separate since 1893, although psychiatry until last year formed a part of the department of theory and practice. Neuropathology became separate a year ago, but is in close affiliation with both the pathologic and neurologic departments. Neurologic teaching begins in the second year, with a course in neuropathology for a period of three weeks, occupying each afternoon. This time is given to a lecture, or talk, of an hour explanatory of microscopic sections and two hours is given to laboratory work. Lantern slides are freely used. In addition to these required exercises two or three quizzes are given of a wholly voluntary character in which anatomic considerations are reviewed. These lectures are preparatory not only for the study of neurology, but also in part for that of psychiatry, while the laboratory work aims, so far as possible, to fit the student to better appreciate clinical work and to complete his knowledge of pathology. An optional course is also given in applied psychology.

In the third year the student receives one clinical lecture a week in neurology during the first term and two during the second. These lectures are made as informal as possible and deserve rather the name of conferences. Besides, two exercises a week are given in psychiatry throughout the whole of the second term. One of these exercises consists in a lecture and the other in a clinical demonstration in an insane hospital.

The fourth year is given up largely to elective courses and the students who elect neurology and psychiatry spend nominally about two hundred hours in practical work in the out-patient department of the general hospitals. In detail the classes consist of about five men each and each class has two months' teaching, during which they spend three forenoons a week in neurology and two in psychiatry. As a part of this course the students receive some special instruction in neuropathology and also have a weekly evening conference. Besides, there is an elective course in the department of neuropathology. This consists either of all day teaching for a single month or half a day for two months. The method of instruction is elastic and varies with the desires and preparedness of the individual student. The teachnical methods of neuropathology are taught and sometimes a neuropathologic problem is given.

NEUROLOGY AT CORNELL AND NORTHWESTERN UNIVERSITIES.

In Cornell University, the neurologic department is distinct from the department of psychiatry. The second-year students are taught the normal and pathologic histology of the nervous system in a laboratory course of six weeks. In the third year a course of thirty-two clinical lectures is given, and the students are divided into classes of twelve, each of which has twelve hours of practical work in the dispensary. In the fourth year twenty-four clinical lectures are held and the classes are divided into sections, each having six hours of bedside instruction in the hospital wards. Psychiatry is taught by lectures, clinics, reviews and optional section work in the fourth year.

In Northwestern University all the neuropathologic work is under the department of pathology. In the third year neurology is taught by recitation only. In the fourth year didactic lectures are given once a week for the first half of the year on nervous diseases and in the second half in psychiatry. Besides one clinical lecture a week on nervous diseases is held throughout the whole year. The students are also divided into dispensary classes of twenty, each having two hours daily for four weeks, and are also divided into small classes for ward walks.

INSTRUCTION AT UNIVERSITY OF PENNSYLVANIA.

In the University of Pennsylvania instruction begins in the third year, the men being given a course in neuropathology, each man having one hour a week for the first half of the term. First, gross specimens are shown, and later lantern demonstrations illustrative of the different diseases. In the fourth year two clinical lectures are held for the first half of the term and one in the second half. The students are also divided into classes of ten, each man receiving ward instruction weekly for the first half of the session. In addition the students in small classes have as part of the course what are termed ward visits in which particular attention is paid to the method of recording as well as studying cases. Psychiatry is taught by the professor of mental diseases who gives one clinical lecture a week in the first half of the fourth year.

In reviewing the methods employed in these four schools it will be seen that in all, with the exception of Harvard, instruction is somewhat alike, in so far as the fourth year is concerned. Clinical lectures are given both in neurology and psychiatry, and ward classes are held either in one-half or throughout the entire year. In the third year in the Northwestern University recitations only are used, in the University of Pennsylvania neuropathology only is given, while in Cornell both clinical lectures and ward classes are held. In the second year there is no direct neurologic instruction with the exception that in the course of pathology reference is made to the nervous system. In Harvard pathology is taught in the second year, clinical lectures on nervous and mental diseases are given in the third, whereas in the fourth year it is optional with the student whether he elects neurology and psychiatry.

TEACHING NEUROLOGY IN EUROPE.

It is interesting to compare the methods employed in this country with those of the leading schools of Europe, although comparisons are rather difficult to make because the methods of medical teaching are so different.

In Vienna, for instance, the students are required to devote one semester each to clinical neurology and psychiatry. These consist of five clinical lectures each week, one hour in duration, and the student may take these during the seventh, eighth or ninth semesters, as he prefers. Neuropathology as a distinct branch is considered extra work and is not a required part of the curriculum.

In Paris neurologic teaching is not conducted systematically, but is divided among the departments of anatomy, physiology, pathology and clinical medicine. In addition courses are given by the professor of diseases of the nervous system and the professor of psychiatry, these consisting of clinical lectures in the various hospitals and clinics. No systematic teaching is attempted, however, and each professor lectures on those topics which interest him. Ward class teaching, as it is known in America, is not given to the undergraduate student, and neuropathology is considered a postgraduate study.

In England neurology is taught as a part of general medicine. In the London Hospital, for instance, Dr. Head, being interested in nervous diseases, has more neurologic patients in his beds than the other physicians and he lectures on these cases every week and gives definite teaching in neurology, and any student, whatever his standing, can attend. In the physiologic class, instruction is given in the structure and functions of the nervous system, and in the class in pathology specimens are shown illustrating nervous cases.

It will be seen, then, in comparison, that is, so far as systematic teaching of neurology to undergraduates is concerned, the American schools are by far in the lead, especially of those in France and England, and possibly of those in Germany and Austria. Whether the results are as good or better is difficult to tell because the course of study abroad is longer, and again no adequate comparisons are possible.

POSTGRADUATE INSTRUCTION IN AMERICA.

Postgraduate medical instruction in this country has not received the attention that it has abroad. The first postgraduate school was the New York Polyclinic, established in 1881. A year later the Postgraduate School was established in New York and the Polyclinic in Philadelphia. Here the students are taught in the outpatient departments of the attached hospitals and cases are demonstrated, but no systematic teaching is attempted. In Harvard a postgraduate course is given, this practically consisting in the fourth-year undergraduate instruction.

An essay of this kind would hardly be complete without some effort being made to outline a course which would be peculiarly fitted to the needs of the American medical student. From the experience of others and also from my own experience it is rather questionable whether it is possible to give a satisfactory course in the limited hours assigned to neurology and psychiatry in a four-year course. Paradoxical as it may seem, neurology has not received attention in the curricula in some of the leading medical schools equal to that of some of the other specialties, as, for instance, the eye. There is no need of discussing here the importance of teaching the student more of nervous and mental diseases, for that is evident, and yet even at the present time neurology receives such little attention that in most of the medical schools those who hold neurologic professorships are not members of the major faculty. Not only that, but in some of the schools a separate examination is not given by the professor of the department. In still a number of others the lectures are given by the professor of medicine, while the clinical lectures are held by the professors of nervous and mental diseases.

In the first place, when considering the nature of our medical students and the methods of our teaching, it is a matter of universal experience that students will not pay much attention to a subject in which there is no required examination. Not only should an examination be held in neurology, but it should also be held in psychiatry. At the present time lectures are given in mental diseases, and it is optional with the student whether he attends and no examination is given, at least that is the rule in most of the medical schools.

Of course, it is taken for granted that the student who graduates at a four years' course can only have a general knowledge of the specialties, and it is not to be thought for a moment that any effort should be made to make him a specialist. The best that should be attempted is to give him a good course in the principles of the anatomy, physiology and pathology of the nervous system and to teach him how to recognize the more important nervous and mental diseases and how to treat them.

GENERAL NEUROPATHOLOGY NOT A SPECIAL BRANCH.

It is rather questionable whether general neuropathology should be taught as a distinct branch. My personal views are that the general pathology of the nervous system should be taught as part of the regular course in pathology and that it should be given in the second year by a specially trained neuropathologist. After all, the pathologic changes in the nervous system are not so very different from those in any of the other organs of the body, and a course consisting of two or three hours daily for a period of three weeks will fully cover the subject. It is advisable in this course to teach the student only the more important stains and general pathologic changes so that he should be prepared to appreciate further instruction. The special pathology of the different diseases of the nervous system should be taught later.

It is a good plan to begin the third year by a course in terminology. Then the student should be instructed in the ordinary clinical signs, such as reflexes, the different tests for sensation, gait, station, etc. In other words, he should be given a clinical demonstration of the ordinary signs employed in nervous diseases and their meaning. After this it is advisable to take up serially the teaching of what could be called applied anatomy and physiology.

A METHOD SUGGESTED.

By that I mean, for instance, this: A brain is shown and the different fissures and convolutions outlined. Then starting, for instance, with the motor centers, the physiologic subdivisions of the precentral convolution are given and the students told what irritative and then what destructive lesions will produce. An ideal plan would be, if such a thing is possible, to show a patient illustrative of the subject, but this is hardly feasible. If this plan is continued, the anatomy, physiology and pathology of the brain can be taken up in serial order, first of the cortex, then the subcortex, internal capsule, crus, pons, medulla and later of the spinal cord, illustrating the whole course with pathologic specimens and lantern slides both of normal and then of pathologic

specimens. This subject can be thus covered in the first half of the term with two hours a week.

In the second half of the term the different diseases then can be taken up in serial order and the symptoms taught, applying the knowledge gained from the instruction in the previous term. The pathology of the more common mental diseases should be included. In conjunction with this course the student should attend the clinical lectures on nervous diseases which are primarily held for the fourth-year men, and, if possible, ward classes should be given in the second half of the term or throughout the entire year, so that the student should be able to fix more definitely the didactic instruction received.

In the fourth year the primary object of the teaching should be to show as many clinical cases as possible and to teach the student to reason the pathology from the clinical symptoms. It is questionable which is the better method of teaching, that is, whether it is advisable to take up a certain given subject like hemiplegia and devote one-half of the lecture to the didactic exposition of the symptoms and then to illustrate by the cases, or to show patients immediately, making the remarks depend on the individual case. My own views are that the first plan is the better. If this plan is followed, the more common diseases can be taught first and toward the latter end of the year the rarer cases can be taken up.

There should be at least one clinical lecture a week, and if possible two, throughout the entire year. Besides, the class should be divided into groups of no more than ten and taught either in the out-patient department of a hospital or in special nervous wards.

Each student should receive at least one hour a week throughout the entire year. In conjunction with this, if there is time and material, it would be a good plan to place each student in charge of a certain number of cases in the wards of a hospital and make him responsible in a manner similar to that of a resident physician.

Psychiatry should be taught throughout the entire fourth year. It would be a good plan to first give a short didactic course, to be followed by clinical lectures. Here, also, it should be advisable to divide the class into sections and give personal instruction in the wards of an insane hospital.

The course that is herein laid out is one that is followed with few exceptions in the Medico-Chirurgical College.

The exceptions are that no ward classes are held in the third year in nervous diseases and none in psychiatry in the fourth year. In the present scramble for more teaching hours, a subject of the utmost importance to every one connected with medical institutions, it is evident that we are coming to a time when it is impossible to crowd more hours into the curriculum of the already overworked student, and it is imperative that the course should be lengthened with an additional year.

This has been recognized by most medical institutions, and it is only a question of a few years when such a step will have to be taken, for with the increased entrance requirements and demands made on the graduate it is necessary that he should not only be more proficient in the fields of general medicine and surgery, but that he should also be better equipped in the specialties.

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DISCUSSION.

DR. CHARLES E. BEEVOR, London, Eng., said that in England there was no special course of instruction on diseases of the nervous system. Diseases of the mind were separated from diseases of the nervous system, and there was a special course on diseases of the mind. Diseases of the nervous system, however, were considered as properly embraced in the student's study of general medicine, and no more properly subjects for special instruction than diseases of the lungs, kidneys or other part of the body. Dr. Beevor said that in every hospital in London there was always in charge of all the nervous cases one physician especially interested in nervous diseases. This physician showed the students pathologic subjects and really taught them just as students were instructed in the hospitals here. The intention, however, was to produce good general all-round practitioners.

Dr. Beevor explained that the English student, after completing his course, came around to special hospitals and then to a hospital like National Hospital of Queen's Square, there meeting and studying nervous diseases; or he might come to the hospital before finishing his undergraduate course. He thought that perhaps they did not specialize quite as much in nervous diseases in London as in other countries. At the National Hospital, Queen's Square, almost every physician was also a physician in the general hospital. Dr. Beevor said that he himself, besides being in the National Hospital, was also physician at the Great Northern Hospital, where he saw cases of rheumatism, typhoid, pneumonia, and in fact all general medical cases and he believed that this was a good thing.

Dr. Beevor thought that, if the neurologist saw nothing but nervous cases, he was led to view everything through neurologic spectacles. The daily sight of cases of pneumonia and rheumatic fever would prevent that mistake. He said that the general practitioner often referred to the specialist a case of miscalled nervous disease. Dr. Beevor instanced three such cases which had been brought to him. The general practitioner had made the erroneous diagnosis of melancholia. Another was called paraplegia in a patient with gangrene of the foot. That was very rare in connection with nervous disease. Examination developed a thickening of the bone at the brim of the pelvis which accounted for the pressure on the artery and for the gangrene. The person had a large clavicle, a large humerus, and was suffering from osteitis deformans.

The third case had been brought to him as a case of cerebral tumor. The patient suffered from heavy vomiting and possible neuritis. Dr. Beevor examined the patient and found cardiac hypertrophy and high tension pulse. The general practitioner did not know whether there was any albumin present or not. Dr. Beevor asked leave to examine for it and found albumin. That was evidence of granular kidney, and none of tumor of the brain at all. Dr. Beevor added that the patient did not believe him because he was a nerve specialist, and went to a general physician to have the diagnosis confirmed.

DR. M. ALLEN STARR, New York City, said that it seemed to him that the profession was confronted with two alternatives: Was the average medical student to be given a fair general knowledge of neurology such as would enable him to do his work in the world as a general practitioner, or the careful, differential training of a specialist? The first, he said, was the endeavor of the College of Physicians and Surgeons; the second was what Harvard University was trying to accomplish by the optional or elective course. Dr. Starr thought that the English method as detailed by Dr. Beevor was, perhaps on the whole, the better for the general practitioner and that medical education was bound to produce well-rounded medical students and not specialists. He thought that the finer special line of work obtainable in Germany in the special clinics, or in England at the National Hospital at Queen's Square could not be given in this country.

DR. F. X. DERCUM, Philadelphia, said that specialists had forced medical schools to give undue attention to the specialties. When he was first given an examination in neurology at Jefferson Medical College, his average had counted 100, the same as in internal medicine. Now it counted 40, which Dr.

Dercum thought an improvement and not a lowering at all in the importance of neurology. He said that the students at Jefferson Medical College received in the third year a course in neuropathology and formal clinical demonstrations in nervous diseases; in their fourth year they had section teaching and clinical and didactic lectures on both nervous and mental diseases. He believed that, if more time were set aside for special branches, internal medicine would not receive its due proportion. Special teaching, he believed, should be principally postgraduate.

Dr. Charles K. Mills, Philadelphia, feared that what had been said might be misinterpreted by some to mean that the occupant of the chair of the practice of medicine could teach neurology, and some other subjects, such as dermatology or pediatrics as well as the specialist, or better. Dr. Mills was strongly in favor of the teaching of the special branches comprised in general medicine by those best versed in those branches. He believed that special teaching should be proportioned to the time which the student had for everything.

Dr. Mills was inclined to believe that the American system was better than the English in having recognized specialists as professors and lecturers on neurology. He believed that they should also examine on neurology, that the examination should be controlled by the teachers of the subject; and that the student should be given a mark proportionate to the importance of the subject. He thought that good neurologic teaching could be given only by good neurologists.

Dr. Archibald Church, Chicago, said that the purpose at Northwestern University had not been to develop specialists; nor even to cultivate the research student especially. The school had for its object the production of practitioners of medicine, and this idea had been a controlling principle in the neurologic department. He said that in the second year a course in connection with the chair of physiology was given by a trained neuropathologist on the physiology of the nervous system. In this course not only was an understanding of the physiologic aspect of the nervous system sought, but attention was also focused on the modification of functional responses by pathologic conditions. Thus in conjunction, for instance, with the physiology of the reflex arc, the modification of the minor reflexes presented by diseases in various portions of the arc, or any conditions modifying responses in that arc, were brought to the attention of the student. He said that, in short, the symptomatology pertaining to the physiology of the nervous system was given to the second-year student. Neuropathology was taught as far as included in the general subject of pathology. The faculty hoped later to have a neuropathologist give those studying pathology a special course on the pathology of the nervous system in the second or third year.

In the third year a course was conducted by the assignment of a certain number of pages of text-book, portions of the text-book being selected for the purpose of training the student to a knowledge of symptomatology, including the methods of examination and the peculiar features of neurologic conditions. The purpose of this text-book course in the third year, Dr. Church said, was so to instruct the student that in his fourth year he might be in position to study intelligently the large amount of clinical material presented.

In the Northwestern University, as everywhere else, Dr. Church said, the internist desirous of doing everything, and the specialist desirous of teaching everything, had existed; but the tendency had been to subject the neurologic specialty to the field of general medicine; to attempt to teach as well as possible, special subjects, not with the purpose of making specialists and research students, but of so equipping the all-round professional man that when confronted with the ordinary or even with the rare forms of diseases of the nervous system, he might grasp the situation, make diagnoses, and give the best treatment provided by the medical profession. Dr. Church added that, on observing the work of the graduates of this school during the last eighteen years, it was seen that those who graduated ten or twelve years ago were not as well equipped as those who graduated five years ago; that cases of multiple neuritis were no longer brought to specialists with the presumptive diagnosis of tabes; that where formerly many rare forms of nervous disease were not recognized at all, it was no unusual thing now for recent graduates to bring cases of tumor well diagnosed, well located, well considered from every point of view; and that many of the rare forms of pathologic changes were equally well presented by them.

Dr. D. I. Wolfstein, Cincinnati, O., said that on account of the congenital aplasia of medical altruism in this country in connection with the acquired hypertrophy of political influence, it was doubtful if one would often have the opportunity of holding two chairs—one in internal medicine, and one in neurology. It was as much as any one could do under crude American methods to get one position. He said that many students after four years of the ordinary American curriculum, still looked on the pyramidal tract as some wandering pathway down the side of Cheops. There was, he thought, a considerable field for careful teaching of the student in college by the trained neurologist. Such instruction could not be properly given by the professor of internal medicine at all for his field was too broad, his time too limited, and his course too extended. Dr. Wolfstein doubted the wisdom of placing too much stress on a complete laboratory course in neuropathology. Neuropathology more than any other branch of pathology must be founded on thorough understanding of neuro-anatomy. Six weeks' instruction would be quite inadequate; three months might accomplish more, but he feared that all that the average student would get would be a hazy idea of the appearance of Weigert and Marchi specimens under the microscope. In order to draw any valuable deductions at all it was necessary to work intimately with the material for a long period of time and, as a rule, to cut complete serial sections. Much could be done, however, even in this short time and especially if the instructor demonstrated typical specimens.

Dr. Wolfstein believed that the great error in specialism to which Dr. Beevor had referred—one-sidedness—would be obviated only when men should take up the practice of neurology as a specialty after a thorough training in general medicine. To illustrate the errors in diagnosis made by practitioners without previous training, Dr. Wolfstein cited the case of a young lady seen by him who had been treated for neurasthenia for two or three years. Her temperature was 99.5, and Dr. Wolfstein, on careful examination, found that her neurasthenia was due to a widespread tuberculous involvement of both apices. Dr. Wolfstein thought that the tendency here as in England should be to specialize only after a broad general education and experience in the principles of medicine.

Dr. George Waterman, Boston, said that the case system of teaching had been adopted in the medical department of Harvard University, from the methods employed in the law school. The third-year students each provided themselves with a book containing reports of about one hundred and fifty cases, illustrating in various ways the different diseases of the nervous system with which they were expected to become familiar. In this book the organic and functional cases were mixed in such a manner that cases apparently more or less similar might have widely different causal pathologic bases. Students had their demonstrations and their lectures and discussions for the first two-thirds of the third year. The last third of the third year was given up to this system of case-teaching. Dr. Waterman explained that two students would be given one of these cases to study outside, having a week for preparation, and to arrive at their diagnosis. Then they were supposed to present the case to the class, first giving the focus of the lesion, then the nature of the lesion and its probable cause. They would then submit to questioning by the rest of the class. The subject would then be taken up for general presentation by the one conducting the course. This had been found a valuable method of making the students use their wits in making diagnoses themselves.

Dr. Waterman considered that the students still lacked that which could be acquired only by personal contact with the patient; and this was provided by the fourth year course of two months which was not intended to make specialists of the students, but simply to enable them to get at the root of the disease without having it presented to him by others.

In this course, which was taken by half the class in the fourth year, the men were made to take patients for half an hour, to take the history and make the diagnosis, and then to present the case to the class. He said that the students rarely specialized in neurology on graduation, but they were enabled to meet neurologic cases better than when prepared simply by didactic lectures and by the reading of cases.

THE GROWTH OF EDUCATIONAL REQUIREMENTS AND OPPORTUNITIES IN STOMATOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE FIFTY-NINTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1908.

E. A. BOGUE, M.D., D.D.S.
NEW YORK.

It has seemed to me appropriate to draw the attention of the members of this body to the now rapidly changing conditions that affect our specialty. The physician and surgeon of long ago was supposed to be qualified to practice medicine and surgery in all its branches. The extent of the field presently caused certain ones, who had had their attention turned specially in certain directions, to become specialists.

About 1837 or 1838 the University of Maryland School of Medicine was petitioned to establish a dental department. The movers in this petition were themselves medical men who had turned their attention to affections in and around the mouth as a specialty. There were, however, so many others practicing this art, without any legal qualification, and engaged mostly in prosthetic work, that is, in supplying lost tissue, whether that loss consisted of parts of single teeth or of whole teeth or many teeth, that the Baltimore school returned a negative answer to the petitioners. These gentlemen being broader in their views than the authorities of the medical school, themselves founded a school in 1839 for the instruction of those wishing to practice dentistry, whether they were graduates in medicine or not.

From this small beginning in this country have grown the fifty-five dental colleges in the United States entitled to confer the doctor's degree without the full medical course. There are also two dental schools or departments in Canada, two or three in Italy, two in Switzerland, three or four in England having a limited connection with medical schools, and at least two in France acknowledged by the government as being of "public utility."

While a full medical course is not required of the dental practitioner in this country, Russia, Austria, Hungary, Roumania, Italy, and I know not how many other countries, all require a medical degree to be held by the practitioner of dentistry. A few countries—for example, Germany, Hungary, Austria, Spain—have provided a certain amount of dental teaching in their university courses, but the strictly dental and stomatologic teaching provided for the dental practitioner is quite as limited in amount as the medical teaching in the dental schools of America and England. When it comes to the treatment of serious oral disease, therefore, the stomatologists of Europe, as a class, look down on the dentist as lacking in professional training, while the dentist, engaged so largely in preventive work, looks on the medical man practicing dentistry as incompetent because he does not prevent the very diseases which the dentist has so assiduously qualified himself to treat; for the serious diseases, especially those requiring surgical treatment (unless they are congenital) are seldom if ever found in mouths where the teeth are in good condition. This, roughly stated, leaving out all unnecessary points, is the condition recognized by the stomatologists of Europe, who held a convocation in Paris last summer, from August 1 to August 5. This meeting was attended by about 250 men, all holding medical degrees, and a society was formed with a membership of about 400. Of this more later.

I may say right here that the intellectual qualifications of these gentlemen as a whole are, so far as I could judge, far in advance of any body of dentists of the same number that I have ever met. I make this admission now in view of certain criticisms which I feel bound to utter.

One incentive to this meeting of stomatologists was doubtless the refusal of the authorities, acting for the International Medical Congress to be held in Budapest in 1909, to recognize as members of the oral section any other persons than those holding medical degrees.

International medical congresses since the one held in Washington in September, 1887, which recognized dentists as practitioners of the healing art, have with one or two exceptions continued to recognize them, up to and including the meeting in Berlin, and to admit to the meetings of the oral section dentists in good standing holding degrees from reputable dental colleges.

The American Medical Association, thanks largely to the influence of Dr. Talbot, which has been continuously exerted for many years, maintains the same attitude still and admits to its section, graduates of reputable dental schools.

The New York *Post-Graduate*, a journal of medicine and surgery, says in its issue for October, 1907:

> The first dentists of this country were nearly all graduates in medicine. The medical profession made a great mistake that it did not warmly welcome this new specialty taken up by men in its own ranks. It is our fault that all dentists are not first graduates in medicine, and many of them are. This error will finally be fully corrected. American dentists have made themselves famous throughout the world by their practical and scientific attainments. They were, in the beginning, members of our craft and would have remained so but for our failure to give them a warm welcome. Specialists in medicine were then under the ban.

This kindly prophecy presupposes that an ever-increasing number of educated men will adopt dentistry as a calling, and that the logical outcome will be that a larger number of dentists will take also the medical degree in order to fit themselves more fully for their life work, or else that each educational institution will make such modifications in its curriculum as to permit it to confer the medical degree, or its equivalent, on all medical specialists.

The establishment of independent dental schools was by no means an unmixed evil, for it has resulted in giving more or less training to a vast army of ingenious men, who have improved on their teachings until they have truly "made themselves famous throughout the world" for their skill, notwithstanding the limited scope of the teaching they had received and the limited field that they occupied. This led to concentration, and concentration has brought results, although the practitioners were not medical graduates.

It is true that many of the rulers and people high in political and social position in European countries have very generally employed American dentists when they

were procurable, and on that account, I have been informed, police protection has been granted to a number of American dentists practicing abroad who had not the necessary legal qualifications for them to practice in the countries where their services were desired.

This condition of things would naturally cause the native dental practitioners, some of whom have been members of the government or of legislative bodies, to become very impatient. The result has been the passage of protective laws, ostensibly designed to protect the people from unskilled practitioners, but really operating to keep out foreign graduates of dental colleges.

This legal condition applies equally to England and France, Italy, Switzerland, Austria, Roumania, and various other European countries, in all of which the foreign dentist is disqualified unless he goes through the same preparation in the country where he wishes to practice as the native of that country is obliged to do before he can engage in practice. Those countries in which the laws requiring the dental practitioner to be a graduate in medicine are the most stringent are those in which the standard of operative dentistry is lowest. There are, of course, a few notable exceptions in every country.

What I have just said is not in disparagement of the very highest qualification possible for the practitioner of any branch of the healing art. It is a bare statement of facts with which we have to deal practically.

As I have previously mentioned, there was formed in Paris last summer an International Society of Stomatologists with a membership of about 400, to the presidency of which Prof. Joseph von Arkövy of Budapest University was called. The object of this society is to draw into closer relations the skilled practitioner of dentistry and the stomatologist, who is recognized simply as a medical specialist, like the rhinologist, the oculist or the gynecologist. Needless to say, it would please the stomatologists if all the first-class dentists became stomatologists, for the stomatologists can not all become first-class dentists, and they decline to be dentists on any other terms.

In 1903 the British Medical Association formed a dental section, thereby acknowledging the importance of dental and oral surgery and giving it its proper position in the medical world. Just at that time there was a movement made in England to separate dental surgery from the medical profession and place it on its own footing, as though it were possible to cut out one branch of the healing art and place it by itself. As if to emphasize the action of the British Medical Association, the new Royal Society of Medicine, formed in England and established in 1907, embracing all departments of medicine, included the entire Odontological Society of Great Britain among its members, thereby accepting quite a number of men who were not full graduates in medicine.

Coming now to our own country, we see that the result of the establishment of dental departments by a number of universities, and the introduction by them of dental teachings, has been to raise the standard of qualifications in every instance, so that in university towns where dentistry is taught the dental graduate of these universities takes rank at once with their other graduates in the estimation of the general public. All this indicates healthy growth and is but a repetition of the process by which the early barbers became surgeons and surgery took its place as the right arm of healing.

Our program shows what this Section is doing for advance, and I think our acknowledgments and sincere thanks are due to the members who have brought us these contributions in our special branch. We may well be proud of the progress indicated by these papers.

Dentistry has been a process of repair and has remained so up to now. It has the reputation of having made great strides; so it has, but principally along mechanical lines. Dr. Miller demonstrated the cause of decay. Dr. Black, by careful analytical research, demonstrated the reason for recurrent decay, and that led to what is now known as "extension for prevention." Dr. Sim Wallace and Dr. Harry Campbell of England have both gone further back, first in causation and then in preventive measures, and not only have announced their conviction that proper feeding would most effectually prevent decay of the teeth, but have put this theory into practice within the last few years by placing a considerable number of children on a diet calculated to promote the proper development of teeth, the proper growth of the jaws, and consequently the proper alignment of the two rows of permanent teeth in the jaws. This condition of things, as is well known to those who have spent any time in the study of the osteology of the head, face and jaws, leads to the formation of rows of teeth that are essentially self-cleansing in the presence of hard and fibrous food, and, therefore, are nearly or quite immune to decay.

The tendency of all research in this direction is to show that the luxurious mode of life of the more civilized countries, and especially of those members thereof who are able to select the finest food, requiring the least mastication and the least effort on the part of the partakers before it is swallowed, is not what is best for the health, either of the dental organs or the individual possessing them.

The effects on the face, nose and jaws of withdrawing the influence of hard and fibrous foodstuffs, which are the natural stimuli to the proper development and growth of these parts, are visible in the narrow jaws and irregular dental arches that so generally prevail. This leads to a general diminution of physical strength, resulting in a diminished resistance to infantile disorders, and almost always resulting in an incompleted adult.

In closing, let me leave this thought: If we "extend" our investigations and practice to "prevent" dental decay we shall most effectually practice "extension for prevention."

63 West Forty-eighth Street.

DISCUSSION.

DR. G. V. I. BROWN, Milwaukee, said that he believed that the meeting at Budapest was entitled to the very best assistance and cooperation it could get from the men in this country who believed the medical degree an advantage in addition to the dental degree. Comparison between the older countries and this was, however, difficult and uncertain because the whole scheme of education there was entirely different from the American. Dr. Brown said that the foreign course of study covered many more years than Americans usually cared to give; the actual hours of study were largely optional with the students, who took examinations pretty much at their own convenience. They drifted into one line or another of special interest to them, and Dr. Brown had learned that it was usual for men to continue in laboratory work there for ten and twelve years without any special thought of taking up the active practice of medicine. In this country, the class rules, the requirements of attendance, the rigorous way students were kept under control, almost like schoolboys, made the

whole proposition entirely different. Dr. Brown said that many of the more highly educated men were not good operators in the technical parts of operative work; but on the other hand, some of the best operators this country had ever seen had been medically educated dentists.

DR. M. H. FLETCHER, Cincinnati, said that he thought that the knowledge gained by the study of medicine enabled one to make a more exact diagnosis and to treat in a more comprehensive manner the disease of decay. To him caries was a disease. Dr. Fletcher did not find that he could put in permanent fillings immediately in all cases. He noted the condition of the tooth and of the mucous membrane, and made up his mind from the symptoms and signs present whether or not it was a suitable case in which to do the mechanical piece of work which the non-medical practitioner would call the best operation. Dr. Fletcher agreed with the chairman that there was a higher plane of treating the diseases of the mouth than that which comprehended only the purely mechanical features.

DR. THOMAS L. GILMER, Chicago, said that to him dentistry was part of medicine. There were many diseases in the mouth other than those affecting the teeth, and the dentist who did not take cognizance of them was not serving his patients in the best possible manner. Dr. Gilmer doubted if it were possible radically and quickly to change the present method of teaching dentistry. Liberally endowed schools for the teaching of dentistry as a special department of medicine might accomplish the change much sooner, but there were no such institutions. He thought that honest schools connected with honest universities should be encouraged and they would in time grow into higher and better things. Dr. Gilmer said that he was decidedly of the opinion that it was not practicable, at least now, for a dentist to secure the medical degree first and afterward acquire his dental education. He believed that, after a man had first graduated in medicine, the specialty of stomatology was not sufficiently attractive to induce him to spend two years more to qualify himself for its pactice. It seemed to Dr. Gilmer that while not the ideal, about the only practicable method at this time was to induce the dentist to continue the study of medicine to graduation after having gained the D.D.S. degree.

DR. EUGENE S. TALBOT, Chicago, said that there should be no separate dental schools; all should be departments of universities; there should be no dental graduates; all should be university men on an equal footing with graduates of other departments of universities. The graduate of dentistry should, like other specialists, be educated in all departments of science. Dr. Talbot said that only three or four of the so-called dental departments were in reality dental departments of universities, and that the student's first lesson in dishonesty consisted in learning to believe himself that which he was not. There could be no middle ground; the dental schools were either schools of mechanics, or educational institutions fit to be associated with other departments of a university. Dr. Talbot believed that the weaker schools should unite with the stronger to reduce the number. There should be only one institution for dental instruction in each of the large cities or states. Dr. Talbot thought that the dental profession should anticipate disease and take up the study of preventive medicine. The time, he said, was ripe twenty years ago; and if the teachers in the dental schools had been educated up to the times by the reading of collateral science, they would now have fully equipped physiologic and pathologic laboratories for the purpose of experimental research. More than twenty years ago Dr. Talbot demonstrated the law of economy of growth, or use and disuse of structures. He said that there was a possibility of the prevention of irregularities of the teeth and decay, and that the experiment was worth the trial. The only way satisfactory work could be accomplished was to take a community of people and have them undergo the same methods of treatment for three or more generations.

DR. BOGUE, New York, said that dentists stood in a curious position. The men called in France *médecins de la bouche* (physicans of the mouth), and in Germany *Zahnärtzte* (tooth-physicians), were men who had been graduated as physicians, and later taken up dentistry. The consequence was that they did not at first know anything about denistry. Those men and a few others added had formed themselves into the Society of Stomatologists and ostensibly wished to unite with dentists. Dr. Bogue said that this was admirable, but the question was, how dentists could be parties to that union. Dentists were not all doctors of medicine, and stomatologists would not accept them unless they were. Stomatologists were not all good dentists, and dentists would be sorry to form a union with them unless they were good dentists. Dr. Bogue thought that dentists should be medically educated, but believed it wise to remember also that especially in a new country there were many people with limited income or opportunities who got toothache and were glad to apply to any one for professional services. Dr. Bogue knew that the wife and son of a member of congress went to the blacksmith in their native village to get their teeth fixed. A little knowledge might be dangerous, but it was also helpful.

Dr. Bogue defined good operators as those men who were able, for the longest possible time and in the best possible condition, to preserve in comparative health the teeth treated by them. It was not a question of fillings, which question did not and should not come up. Dr. Bogue could not approve of the destruction of tooth material which is now being waged throughout Europe and elsewhere, filing and chiseling and extracting right and left. It was not necessary, but those men who had not been instructed how to do otherwise were going to do that as the next best thing. European stomatologists. Dr. Bogue said, had not as a class undergone dental instruction, and American dentists lacked a medical foundation. He had hoped to receive light on the question of how to harmonize the two conditions.

Original Articles

A CASE OF ALTERNATING PERSONALITY.

CHARACTERIZED CHIEFLY BY AMBULATORY AUTOMATISM AND AMNESIA WITH RESULTS OF HYPNOTIC EXPERIMENTS.*

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All of the cases of alternating personality probably are of sufficient interest and value in the study of hysteria to merit report. This account presents a picture perhaps only slightly different from some already recorded. The patient is possessed with a neuropathic constitution and presents a group of the stigmata of hysteria including the dissociation of the personality. The experiments serve to indicate a close analogy between the hypnotic state and the hysterical lapses. On the theory that all cases of dissociated personality occur in hysterical patients, and in view of the above analogy, we may be easily led to believe that all the departures from the primary or normal personality are partly self-induced hypnotic states. The most prominent features in the case are the ambulatory automatism and amnesia, both common characteristics of these peculiar and interesting hystericals. The usual, and what seems to be the patient's normal, personality we have designated as the primary state and the epochs of changed personality or the new condition the secondary state. In the abstract the case is as follows:

Patient.—Male, aged 29, white; electrician, American, average height, weight 163, and fairly well nourished.

History.—This was negative up to 1898 when he contracted typhoid fever while in the Spanish-American war. Since that

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time had had periodical (annual) attacks of "tender spine," and hyperesthesia along the left side involving also the left upper and lower extremities. Patient stated the pain was so intense that it caused a partial paralysis and that each succeeding attack seemed to be worse. The above condition he regarded as the result of the typhoid fever inasmuch as these attacks came on him each year about the same time he had the fever. Electrical tests negative.

Examination.—Physical examination revealed normal conditions excepting in the nervous system. He complained at times of feeling nervous. Deep and superficial reflexes all heightened and very prompt. Pupils variable, mydriatic most of the time, equal and reacted promptly to light and accommodation. Tactile sense was blunted on the entire left side and more deeply so in certain areas. Right side was normal. Allochiria was well marked on the back. Partial analgesia on the left side only. The thermic sense was considerably modified on the left side. He complained of paresthesias such as tingling, formication, and itching over the upper part of the chest anteriorly and posteriorly, also over the shoulders. A peculiar tender area extended from the base of the occiput medial down to the fourth cervical spinous process and over the left transverse process of the second cervical vertebra just below and anterior to the tip of the mastoid process on the left side. Pressure over this zone gave him an intense frontal headache. There was a marked superficial tenderness at these points, and he also had a marked tenderness over the left midpoint between the anterior superior spine of the ilium and the spine of the pubes.

The sensory symptoms were all variable. From time to time various symptoms had been presented that could be placed on the list of hysterical stigmata. The most prominent of these was his extreme suggestibility. This condition had been present at nearly all times and when hypnotic tests were desirable it facilitated them greatly. Variable anesthesia and other sensory phenomena were to be found at certain times. Abulia was a prominent characteristic in his case. There was a pronounced craving for attention and the patient would always see to it that he was not missed in the regular visits of the physician. Hypochondria was fairly well marked.

Patient's Story.—"In the fall of 1901 I was collecting for the Lynchburg Street Railway Co. One evening I was coming back alone from the country where I had been collecting money for some arc lights and motor-power and was crossing the bridge near home when I was struck a fierce blow on the head from behind. I did not remember anything more for about four days when I came to myself sitting up in bed and the first thing I did was to make a move for my pocket that had my money in it. The money had not been taken from me, however, but I had lost my watch and my own pocketbook with a small amount of money in it. I was afterward told that one of the conductors on the street railway saw me lying on the bridge and thought I was drunk and carried me back home. The doctors said I was struck with a sand bag. I was bruised on the back of the head. My head was so sore I couldn't touch it, and for about a month I did not go out of the house. From that time all that winter I was conscious, at times, of not knowing what I was doing, just at intervals probably lasting from fifteen minutes to half an hour.

"In the spring of 1902, I purchased a suit of clothes on Thursday. On Sunday morning when I got up to dress I found two suits of clothes exactly alike, afterward finding out I had bought the second suit of clothes not knowing what I was doing. I took it back and told the clerk in the store and he said when I was in there he thought I acted kind of funny. He asked me what I wanted and I selected a suit just like the one I had purchased a day or two previous. I commenced to get bad after that, that is, of getting a day, maybe two days which would seem like perfect blanks, to me. My home people didn't know what to make of me, and I told them that at times I didn't know what I was doing. I believed that blow on the head did most of the harm.

"In May, 1902, there was an excursion down to Norfolk, and I told my parents I was going to take that trip and go by boat to Baltimore and go to Johns Hopkins and seek a physician, in the hope that he might do something for me. I did not receive much attention from the physicians I consulted in Baltimore. This discouraged me. I sent word home that I would return the following week by the same route I had taken to Baltimore. However, at this time I lost consciousness of myself and when I came to, found myself in London, England. I didn't know where in the world I was and was very much frightened. On inquiry I found that I was in London, I didn't know whether I was dreaming or what had happened. I wandered around London and afterward found I was in Whitechapel. I wandered over on Commercial Road which is the main thoroughfare leading to the docks. Here I found a lodging house where I stayed over night and wrote a letter home. They would never show me the letter and that was the only time they heard from me while I was away. How I got across the water to London is something I have never been able to tell. I tried to find out but I never could. I tried every ship that came from Boston, New York, Baltimore and Norfolk, giving them my name and description, but could gain no information.

"The last thing I remember in London was being down by the old Tower, and the next time and place I realized anything was about two weeks later in Capetown, South Africa, and how I got there I don't know. Here I was more frightened than ever. I didn't have any money and was so far away from home. I secured employment as timekeeper for a contractor and went up to Johannesburg, about 250 miles over in Central Africa. Most of the time here I did not realize, yet I must have carried out my work daily as there was no complaint. At the end of two months I had about $225 which I thought was enough to take me home. I went to Capetown, got a vessel for London, sailed from London to Boston, and from there on home. I reached home in November, 1902, in such a condition that my mother couldn't recognize me. I got along very well without much loss of memory until the year 1905. At this time my mind was very clear, with the exception of an almost constant headache.

"In the meantime I had married and moved to Canton, Ohio, where I got along first rate until the above mentioned date, December, 1905. At this time, I again showed some loss of memory for certain periods. I was taken to a sanitarium in Columbus, remained there a short time, and was discharged as recovered. Secured employment in Columbus, operating an electric crane. I worked there one week, when I felt an attack coming on. I tried to wear it off; thought I could work it off. I left my home on Tuesday morning—this was in April—and the last thing I remember I was crossing Neil Avenue, which is about half a mile from the shop. The foreman of the shop told my wife that I went to work on the crane, operated it for about 20 minutes, came down and told him that my head was hurting so that I would have to go home. However, I came to myself in the afternoon of the same day at Newark, Ohio, not knowing where I was or how I got there. I telegraphed my people, and my brother immediately made arrangements for my commitment to this hospital."

First Attack at Hospital.—At about 8 p. m., May 22, 1906, the patient was standing on the veranda of the hospital, watching the fire department go by; soon after he turned and came into the parlor. In a few minutes he went to the interne's room and sat down on the bed, saying, "Oh dear, doctor, I am feeling so bad," and immediately fixed his eyes with a continuous stare and did not notice anything around him. His attention could not be gained by asking him questions, but after sitting thus for about ten minutes, the physician touched his wrist to feel his pulse, and he awakened with a start, looking up naturally and smiling. His pulse at the time was 102. The doctor resumed his reading, and the patient immediately returned to the stuporous condition. In about five minutes, with an offended manner, he got up and precipitously left the room, going to the west veranda. After a little while he was found sitting with his head in his hands. In an endeavor to open a conversation, all that could be obtained was, "Oh, my head hurts me so." At this time the nurse came out and told the patient it was time to

retire, and in a moment he arose and walked to the parlor sofa throwing himself down. When again told it was bedtime, he got up, walked up and down the side hall, then entered his room and sat down on his chair and looked steadily out of the window. Later, the interne and nurse again enjoined him that he would better go to bed and began to take off some of his clothing in which he later assisted, but on getting him to bed, instead of lying down, he sat in a semi-recumbent position, leaning against the head of the bed, with his hands on his head. Just before getting into bed he said, "Where is Mattie?" (his wife's name) and in bed he said, "Oh, my head hurts so, I can't think." The interne revisited his room many times during the evening, always finding him with a fixed troubled look. He arose at 5 o'clock, walked into the west parlor, immediately sat down with his head in his hands, and with an expression of extreme dejection, entirely foreign to his usual smiling countenance. This position was not changed until the nurse asked him if he wanted to eat, which he seemed to understand perfectly, but would not speak, simply shaking his head. During the meal he walked into the reception room and leaned his chair back against the wall, sitting there with bowed head and strained expression till about 9 o'clock, then he suddenly awoke and was startled till he saw where he was. He then went to the nurse in an extremely nervous condition and asked for something to quiet his nerves. On being questioned concerning his spell, he said that he did not remember a thing after he was standing on the east veranda the evening before. He felt awfully tired and worn out as though, as he said, he "had done three weeks' work in one day," but his head did not ache so badly as it did the evening before.

Second Attack at Hospital.—In the evening of July 6, the physician asked how he was feeling, to which he replied, "Not very well, doctor, my head hurts me so." This was about 5:30 p. m. After taking a seat in one of the rooms, he was spoken to by one of the patients to whom he made no reply. He was then noticed to walk about the cottage till almost bedtime. He then went to his room, where he was found sitting on a chair peering steadily out of the window into the darkness. He had a very troubled, worried and sullen look on his face, and when the nurse touched him on the arm, acted as though he were angry. On being repeatedly told by the nurse and interne that it was bedtime, he did not move or take any notice of them, whereon he was undressed and put to bed without much resistance. He did not lie down, but sat up in a half reclining posture, which position he maintained till 10 p. m., when the nurses and interne were in the room, and at which time he suddenly awoke as if from a deep sleep. From the time we put him to bed till he came to himself, he had a heavy frown on his face, and kept slowly winking his eyes and gazing steadily at the foot of the bed. When he awoke, he said, "I am so tired," and then lay down on his pillow and was soon fast asleep. The next morning he was very weak and tired, and remembered nothing of the interval of time between 5:30 and 10 p. m. the evening before.

Third Attack at Hospital.—Patient was feeling in fine condition, July 22, until he had a little difficulty with one of the patients, which made him very nervous and out of sorts. He kept gradually feeling worse and his headache increased until on Monday, July 23, 1:15 p. m., the attack began. He was in his room staring out of the window, with a troubled look on his face. His pupils reacted sluggishly to light and his eyes were more or less fixed and staring. The facial expression was anxious and some times depressed, and he wore a frown continually. He did not seem to hear what was said to him and yet when told in a commanding voice to protrude his tongue, he did so, also stood up and walked down the hall and out the door; after this, he did not obey any commands. He would not answer any questions or give the least hint of a facial expression that would lead one to believe that he understood what was said to him. His leg and arm reflexes were exaggerated, especially the left side. He had a very noticeable tremor of his left leg. After the above observations were made, he was conducted out of the cottage to the grounds and allowed to go wherever he chose. He started direct for the gate leading to the street. He had his hands in his pockets, head down and eyes resting on the ground a few feet in front of him. He walked fairly rapidly, paying no attention to walks or driveway, but cutting straight across to the gate. He was followed closely, yet he took no notice of anybody, and did not seem to know anybody was around. On coming to the street, he turned and walked up it a short distance, and then on an intersecting street for one-half block. The physician called to him, but he would not stop. On catching up with him and taking him by the arm, without any particular resistance he was turned and started back. On reaching Broad Street, a street car was coming and he acted as though he wished to get on, and when the car stopped would have done so, had he not been prevented by his attendant. He wandered around on the street and then he was started back to the hospital, but he would not walk far till he would turn around and go towards the gate.

He would keep perfectly still when photographed; did not eat any supper, and sat for a while in his room where he came to himself at 6:10 p. m., feeling very much the worse for his experience. He asked for something to quiet his nerves. He ate a light lunch and went to bed, but did not rest well all night and felt very bad, weak and depressed all the next day, (Tuesday, July 24), and came in the office after supper, stating that he was trying to fight off a spell and asked to be allowed to stay up awhile till he overcame it, but at 9:10 p. m., he passed into his secondary state with a very deep frown on his face, just as though he was angry. On being advised to go to bed, he got up, and in an offended manner went to another part of the hospital, but would not talk, answer any questions, or pay any attention to anything we said to him. We kept telling him to go to bed, whereon he went into the parlor and sat down. The nurse took him out of the parlor and put him in his room, where he seated himself on his chair, and at 10:20 p. m. he was persuaded to go to bed. He partly undressed himself, being coaxed and commanded at times to do so. The interne was in to see him ten minutes later (10:30) and he had his head and shoulders propped up and steadily gazed at the foot of the bed. He remained in this condition all night, and in the morning dressed himself as usual, but did not eat any breakfast. His medicine was brought to him in his room, but he refused to take it. A few minutes later he came to himself, with a little start and jump. He felt very bad, but not nearly as much so as he did the day previous after the preceding attack.

Attack Occurring July 30, 1906.—In the afternoon of July 30, the patient repeatedly complained to the interne of feeling so weak and done up. Just after supper he asked for something to quiet his nerves. He said that he had a peculiar headache this afternoon, and felt as if everything in his body was trying to get into his head, and it felt so awfully sore. In the evening at 8 p. m., he came into the office and without saying a word, seated himself in a chair with his head resting on his right hand, his elbow on an arm of the chair, and his eyes fixed on the floor. When spoken to he did not look up or make any reply. He soon got up and walked out of the office, turned down the hall and went to his room. His face was deeply flushed, and he had an offended manner. He was observed in his room a few moments later (8:15 p. m.) seated on a chair with his head on the bed, and both hands holding the back of his head. He could not be roused or made to give any response whatever. A little later (8:30) the physician found him lying on the bed with his head and shoulders propped up high, eyes partly open and fixed. On commanding him to protrude his tongue, the scowl on his face grew deeper. He muttered that his head hurt him so badly. At 9 p. m. he had not changed his position and would not undress himself, but his apparent anger would increase when he was urged to do something. At 9:30 the interne and night watch went into his room and he was still in the same position, but a little more restless than usual, rubbing his hands over his head, sighing and exclaiming alternately from time to time, "Oh, dear," and "My head hurts so."

At 9:45 p. m. the physician found him sitting in one of the windows, looking steadily out and downward through the

window. He refused to turn his head even when some force was used. He sat there for quite a while and then suddenly came into the interne's room and, sitting down on the bed, with his head in his hands, steadily gazed at the floor. He soon threw himself over on the bed, holding his head as if in intense agony, and exclaiming, "Oh dear." He groaned more or less while he was lying on the bed. Soon he muttered something, and on being asked several times what he said, he replied, "I want some smelling salts." On holding the cork from a bottle of aqua ammonia under his nose while he lay on the bed, he awakened with a sudden start, and looked at the physician and smiled, and said, "Oh, what a relief; please let me smell it again." A moment later he said that smell seemed to take an awful weight off his head. He said his head felt as clear as a crystal. He went to bed at 1:30 a. m. and said he was feeling fine, except that he was very weak.

First Hypnotic Experiment.—On the evening of September 20 the patient came into my office saying he felt quite miserable, suffering intensely with his head and feeling very nervous. Felt certain that he was about to pass into one of his states of secondary consciousness. I suggested that I hypnotize him, to which he agreed, stating that he had been hypnotized once by a professor. This was about 7 o'clock in the evening. I made the trial of hypnotism and succeeded in a very short time in having him under my control. I made several tests which assured me that he was hypnotized. At this time he was bearing an expression of discomfort and frowning. I suggested that he throw off that scornful expression and look pleasant and agreeable. He did this immediately. I also suggested that he was in a much better physical condition, and was not suffering any discomfort or pain, and judging from his expression, this seemed to be realized by the patient. I directed him to go to his room and take off his clothes and go to bed. This he did without any opposition whatever, carrying out every suggestion just as I gave it. After getting into bed, I suggested that he sleep soundly until 5 o'clock and then awaken and feel first rate and go to his breakfast. Our experiment, however, fell short somewhat in all this. He slept beautifully until nearly 2 o'clock, at which time he awakened and sat up in bed quite himself again. He soon began feeling bad, and at 4 o'clock got up and dressed. Later in the morning, at the regular getting-up time, 5 o'clock, he helped with the usual duties about the hospital, went to his breakfast, and about 6:30, as he was on his way down to the bathroom, lost all account of everything, and the secondary state was again on him. On visiting him about 7:30 I found him lying on the bed, looking very irritable and cross and displeased. At this time he would not talk with me, but clearly manifested that he didn't want anybody to bother him. I endeavored to engage him in conversation, but failed. I tried to get him up and have him move around, but failed in this. He would do nothing but lie on the bed, apparently angry about something. I didn't see him again until 11 o'clock, at which time he was sitting up in the chair in his room with his cap on, and looking in a staring manner out of the window. Seeing him with his cap on, I asked him if he wanted to go out, when this conversation took place:

"Do you want to go out?"

"I don't want to go with you."

"Do you know who I am?"

"Yes, I do." (Very cross.)

"Who is talking to you?"

"I know you all right."

"Well, who am I? What is my name?"

"I wouldn't be apt to forget you; it's Jim Fulton, and I know you well enough; you might as well go on and let me alone."

Seeing that he believed me to be some other individual, and that he was not friendly to this person, I didn't insist on talking with him much or doing much for him under this condition. He continued in this state, at times walking about in the cottage, trying to open the different doors, and seemingly wanting very much to get out and go somewhere. After failing to get out of the door, he would go to the window and look longingly. This lasted until 12:05 at noon, September 21, when he came to himself again, feeling very nervous and weak. Patient all this time stated that he didn't remember anything during the six hours of the lapse. When told of his irritable mood and mistaken notion concerning his physician, he regretted it very much and seemed to feel bad about it. On further investigation I found that Jim, the man referred to above, was a man of the patient's acquaintance, and was not very friendly to the patient, but repeatedly circulated stories reflecting on him. This accounts for the patient's irritable manner in my presence, while taking me to be this man.

Second Hypnotic Experiment.—Patient, with consent, was easily hypnotized with purpose of securing some history of some of his lapses. We know that in his primary state of consciousness he was entirely unable to recall anything that occurred during any period of secondary consciousness. Therefore, thinking that a state of hypnosis might aid me in adding the missing links of his life, I made the experiment with that end in view. As recorded above, we know that concerning his sojourn from Baltimore to London he knows nothing. Not a single event could be recalled. The same is true of his journey from London to Cape Town, Africa. Under the state of hypnosis he was enabled to recall nearly everything that occurred during that particular lapse or "spell." I learned that he traveled from Baltimore to New York by rail, going over the Pennsylvania Railroad. At New York he paid $55 for a ticket to London, making the trip in a fast vessel in six and one-half days. He traveled under the assumed name of Frederick Fields. He also revealed that after a few experiences in London he secured employment on a merchant vessel bound for Cape Town, Africa. On this vessel he labored in the kitchen and elsewhere. This much knowledge gained from him hypnotized satisfied me as to the success of the experiment, so I awakened him.

The ease with which the patient gave himself up to hypnotism and the very marked resemblance in expression, demeanor, etc., while in the hypnotic state to that while in the secondary conscious state was very striking. The chief difference, however, existed in the fact that while hypnotized he was amenable to suggestion and in the state of secondary consciousness he as a rule was not so. After coming out from the hypnotic state he felt the same tiredness and exhaustion he experienced after one of his periods in the state of secondary consciousness. Because of these facts I am led to suspect that the hypnotic state is closely analogous to the conditions of the dissociation of the personality.

The patient is still under my observation and has not had any disturbance in the field of consciousness since November, 1907, and the stigmata, excepting the abulia and suggestibility, have disappeared.

We regard the condition of the patient as improved only, and so long as the abulia and suggestibility remain we may look for a return of the dissociated personality. He is now employed as the hospital photographer and is getting along with ease and comfort, and this may be a factor in keeping him as well as he is at the present.

DISCUSSION.

DR. EDWARD P. ANGELL, Rochester N. Y., asked Dr. Gaver if he had looked up the data given by this patient in regard to his trips to London and elsewhere. Such statements were frequently the results of a dream-state represented by the mind as a fact. Dr. Angell added that fact and fiction were often alike to the patient.

DR. ALFRED GORDON, Philadelphia, said that he had reported, under the title of "Double Ego," the case of a young lady who told him that she had taken a trip to Europe and described, with such minute precision as to be almost convincing, the beautiful landscapes that she had observed in Switzerland and Italy. Yet Dr. Gordon doubted the story, and investigation proved it false. On another occasion, among many others, the patient told Dr. Gordon that she had been invited

to play a certain rôle in a theater; that she had done so and met great success; that everybody had applauded her, and that many managers had invited her to appear in this rôle in different places. Inquiry proved this story also untrue; it was simply a case of subconscious state in a hysteric person with autosuggestions. Dr. Gordon explained that the patient had suffered from distinct attacks of hysteria simulating epilepsy; that she was accustomed to spend hours in reading, especially novels of the ten-cent order, containing wonderful descriptions and thrilling adventures, which were a factor in the suggestion which induced her condition.

DR. W. T. WILLIAMSON, Portland, Ore., said that the likelihood of subjective error was sometimes in point, but it would not cover all such cases. Dr. Williamson cited a case in Council Bluffs. A young man left home to go down-town, and disappeared and was not heard of for several months. At length his parents got a cablegram from Australia from the young man, stating that he was there and wanted money to get home. The father and mother met the young man at Seattle, brought him to Portland and placed him in Dr. Williamson's care. Dr. Williamson said that though he kept the young man under observation for months, he never found anything that suggested fraud. At Seattle the patient's father made investigations which corroborated the young man's story. Dr. Williamson believed that these facts could not be explained by the hypothesis of dream-state, subconscious state, or fraud.

DR. GEORGE A. MOLEEN, Denver, asked whether this subject had been afflicted at all with epileptic attacks. He remarked that he had seen a number of cases of postepileptic amnesia; one recently in which the patient's actions were automatic, during an attack of amnesia lasting for six hours. A number of cases in Denver had been under the observation of several neurologists, some of the attacks being of several months' duration; but no history of epilepsy was obtainable. Dr. Moleen said that he would like to know in all cases how many of the patients were afflicted with epilepsy.

DR. G. P. EDWARDS, Nashville, believed that the diagnosis should be considered more carefully. He said that he had always looked on these patients as paranoiacs, or afflicted with periodical or circulatory insanity rather than with hysteria.

DR. GAVER said that at the office of the ship company he had found that a man had travelled at the date mentioned by the patient, under the name of Fred Fields, the assumed name the patient had given while in the hypnotic state. Dr. Gaver could not give further corroboration except what was obtained through hypnotism. It seemed to him that if the patient's statements had not been true, he probably would not have been able to corroborate the story as he had told it while in the primary personality or normal state. The hypnotism, therefore, would have been the means of proving the fallacy of his story if it had been untrue. Dr. Gaver said that he had never seriously considered the case as one of epilepsy, not having observed any epileptic symptoms at any time. In substantiation of the diagnosis of hysteria, Dr. Gaver called attention to the fact that the case presented most of the major symptoms of hysteria, namely, marked suggestibility, abulia, breaking up of the field of consciousness, and very marked sensory disturbances, such as anesthesia and paresthesia. He did not regard the dual personality cases as epileptic or as the equivalent of epilepsy.

Serum Diagnosis of Syphilis.—Plaut, Heuck and Rossi, in the *Riv. di Patol. nerv.*, December 1907, xii, 12, conclude from their studies of the precipitation test of Fornet and his collaborators, (*Deutsche med. Wchnschr.*, 1907, No. 41) that this test can not be satisfactorily substituted for the deviation of complement test of Wassermann in the serum diagnosis of syphilis. They obtained the same reaction of precipitation by contact between the sera of syphilitics and paretics as well as between that of syphilitics and normal persons and also between two normal non-syphilitic sera. They do not deny the possibility of such a specific reaction under favorable conditions, but do not consider it reliable.

THE ATTITUDE OF NEUROLOGISTS TOWARD ELECTROTHERAPY.*

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The history of electrotherapy reaches back many years, a hundred or more. It includes a long list of names of those prominently connected therewith as investigators and writers, some of them very eminent. The investigations show at all periods much scientific effort, to say nothing of the voluminous records of enthusiasts that have no actual scientific value. The modern treatise on electrotherapy begins, much as its predecessors have, with a recital of the physical, physiologic and chemical effects of electric currents, but fails, as its predecessors also have, to establish any important relation between these effects and the therapeutic results claimed from the application of electricity to the body in various ways. The only probable exceptions to this statement are certain well-understood surgical results and some of the results of phototherapy, so-called. The body of the profession has not only been open to conviction, but it has anxiously, I may say, awaited convincing evidence that this agent would eventually yield certain specific or special therapeutic properties. So far it has not done so except in the limited field above indicated. This at least is the verdict of the great majority of those who are best prepared to render one.

The neurologist can not avoid the responsibility of an opinion in this matter, although he realizes that there is still a considerable contingent of the electropathically inclined who are anxious to contest his conclusions. A strenuous argument on therapeutic questions is rapidly becoming a thing of the past, and I have no desire to engage in one. My purpose is to state and to briefly explain what I believe to be the attitude of neurologists generally toward the use of electricity in those diseases which they are called on to treat. Neurologists more than any other class of practitioners are appealed to both by the laity and by other physicians for an expression of opinion in this matter because it is naturally supposed that they are the best prepared for one, and I think it must be conceded that they are. In the first place, the most numerous claims for electrotherapy have been made in the treatment of neuropathic diseases; second, there are few neurologists, especially among those who have practiced for twenty years or more, who have not used electricity a good deal; third, and most important, only those capable of making reliable diagnostic distinctions in neuropathic diseases are as a class capable of reliable opinions concerning the therapeutic measures to be addressed to these diseases.

The use of electricity in the treatment of neuropathic diseases does not in any instance rest on a scientific basis. It is as purely empirical, in this class of diseases at least, as any of the remedies employed in medicine. This means that the results attributed to it and the manner in which they are obtained are simply matters of opinion—always an unreliable kind of testimony, and perhaps never more so than in questions of therapeutics. For example, one observer relates remarkable effects from a battery from which no current issues; another, admitting the psychic origin of certain effects, prefers to produce them by the sensation of the passing current.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

To obtain certain results one insists on the galvanic, another the faradic and another the sinusoidal; another is confining himself to the static machine and getting more cures than he can account for; another is enthusiastic over electrophototherapy only; another has seen the most astonishing results from Arsonvalism.

Any one who has seriously and carefully used any kind of current in the treatment of disease for any length of time can truthfully testify that he has seen "good results," and even remarkable and astonishing things therapeutical. If he is a diagnostician he must soon discover that at least many of these results are psychic in their origin. He soon realizes, furthermore, that even if all the conspicuous results are not psychic he nor no one else has any means of proving the fact scientifically. In short, we know beyond question that many of the results are purely psychic, and we have no means of knowing that they are not all psychic. It will be readily seen that the whole argument reduces itself to a consideration of this fact.

Naturally, the neurologist with a growing diagnostic capability in neuropathic maladies has been first among practitioners to discern the psychic possibilities of certain remedies. He knows also what are the most convenient ones to use for this purpose and the proper places to apply them. He knows better than any one else, for example, where to use hypnotic suggestion and where electricity in order to test their greatest value, which means that he also knows where these remedies are weak or where harmful.

In the more serious and intelligent treatment of many neuropathic conditions we must rely on persuasion and education, i. e., persuasion in its technical sense and education in its broad sense. In doing this we strive for a deeper hold on our patient's ego, so to speak; a reliable footing in his confidence that can not be maintained by therapeutic clap-trap. Sometimes suggestive measures — electricity, for example — assist us in breaking into certain difficult psychic situations. For this purpose it is at times a convenience. But too often it is an inconvenience. The patient's cognizance of these things, i. e., of agents possessed of supposed special or unusual therapeutic power, is a hindrance, an inconvenience to the practitioner who is trying to reach an ultimate, a reliable therapeutic basis for a certain large class of patients. We can not teach these patients to rely on the simple hygienic measures in which they must eventually find security until we have entirely overcome their yearnings for therapeutic specialties. This is what we mean by the inconvenience of electricity, and not merely the inconvenience due to the time and patience consumed in handling electrical apparatus.

In view of the foregoing the futility of attempting to formulate rules for the use of electricity in this particular field is evident. Some will continue to use it extensively and find a satisfaction in doing so. One practitioner will write four times as many prescriptions as his next-door neighbor and intimate friend in professional life, but he can not convince this friend that it is commercially profitable or scientifically necessary to follow his example. Our therapeutic tastes and habits still vary with our temperaments and training, but we are learning to be very broad and charitable about questions of "practice" and scientifically more accurate. In short, we are all awakening to the great rôle that suggestion plays in the whole field of therapeutics and learning how to apply the gauges that are furnished by it.

Twenty years or more ago marked a period of great improvement in electrical apparatus. There began to appear perfected static machines, better and more convenient galvanic and faradic batteries, and appliances for controlling house currents, milliamperemeters and "normal" electrodes for measuring dosage, etc. With all this there was an increased interest and decided activity in the use of electricity, and many believed that an important renaissance in electrotherapy had begun. At that time neurologists quite generally began to equip themselves for a new trial, as it were, a scientific test, of electricity. Their verdict at the present time is founded on this kind of a trial.

In closing I wish to merely allude to the diagnostic use of electricity for the purpose of reminding my hearers, I hope unnecessarily, that neurologists as a class have not slighted any important known function of electricity in practice. The diagnostic value of it is appreciated only by neurologists, or those actually capable of diagnostic refinements in neuropathic diseases, and it is the only practical scientific use that has been made of it in medicine proper, and this, I repeat, is to the credit of neurologists alone, and they must also determine ultimately the therapeutic values of electricity in their particular line of practice.

DISCUSSION.

DR. C. EUGENE RIGGS, St. Paul, said that commercialism had placed its stamp on the use of electricity; that manufacturers had flooded the country with various forms of apparatus, and that sometimes doctors had been unfortunate in their handling of this remedy, especially when they had placed it in the hands of incompetent nurses and ill-informed internes. As a consequence reliable data could not be expected regarding electrotherapy. Dr. Riggs said that nobody could question the value of cataphoresis in the relief of pain or of galvanism in the relief of neuralgias, or of the high-frequency current in the relief of pain and high arterial tension. Dr. Riggs said that electricity had a real tonic and sometimes a sedative influence.

DR. WILLIAM BENHAM SNOW, New York, took an attitude opposite to that of Dr. Fry and said that Dr. Fry's premises were not based on scientific recognition of the physical or physiologic action of any of the electric currents. Dr. Fry had assumed that the effects of these currents were purely the result of suggestion. Dr. Snow said that if the current or the application of the current would remove pain, swelling, tenderness, and the lesion itself, in the case of a severe sprained ankle or wrist, it was something more than any suggestion that the personality of the physician could effect. Dr. Snow said that he knew from a long experience in the intelligent use of the static current that its great field was in its action on congested processes. He added that it must be understood and would be recognized in the future, if not to-day, that the treatment of nervous diseases was the treatment of inflammatory processes. Reflex neuroses, he said, unquestionably had their origin in, and were relieved by the relief of these inflammatory conditions. Dr. Snow said that he was effecting these results regularly in cases of neurasthenia, hysteria, neuritis and nervous diseases associated with every sort of inflammatory process; and these results were certain; there was no such things as failure in the treatment of localized uncomplicated peripheral neuritis or an inflamed joint, with the static current in the hands of an operator who was capable of applying it.

DR. CHARLES K. MILLS, Philadelphia, said that electricity in medicine had a field of usefulness, both in diagnosis and in therapeutics; but he thought that field a limited one, and believed that a definition of the uses and limitations of the agent would be most serviceable. Dr. Mills said that after many years of observation he was convinced that at times he was able to clinch the differential diagnosis of a peripheral from a central palsy, and perhaps to determine certain facts with

regard to organs out of sight, by painful effects of the use of electric currents. Dr. Mills believed that electricity was largely a suggestive treatment, but not merely a method of treatment by suggestion. He believed with Dr. Mitchell that the skilful use of the faradic current in the treatment of patients suffering from neurasthenic conditions might prove useful by serving as a passive exercise, and in all probability by improving the condition of the blood. This covered much of its value even outside of neurasthenia. Dr. Mills said that neuritis, especially the chronic forms of it, could be treated with some advantage by a galvanic current of a moderate number of milliamperes, but he did not think this treatment beneficial in a wholesale way. Dr. Mills believed that pain not due to neuritis could also be relieved, not only by the currents of high-frequency, but by currents of the old-fashioned sort used skilfully. Some other beneficial results could be secured, as for instance in states of anemia and in some forms of indigestion. To make a sweeping assertion that the whole subject of these diseases of the nervous system and their treatment might be comprehended by regarding them as inflammatory with reflex results, was misleading. Dr. Mills believed that static electricity had some use. He stated that there was a good electrotherapeutic plant and an opportunity to test its value at the University of Pennsylvania. He said that it probably did some good in certain conditions of anemia and in a few other affections. Dr. Mills said that the value of electricity in medicine should be acknowledged but not exaggerated.

DR. WHARTON SINKLER, Philadelphia, thought that in many cases the effects of electricity were psychic, especially in cases of neurasthenia, hysteria, spinal tenderness, etc., but believed nevertheless that electricity had a distinct place in the treatment of various nervous diseases, more especially in the local palsies, facial paralyses, local neuritis and other conditions. He had recently seen a man with musculospinal palsy, the result of carrying a load of trees on his shoulder and arm. He had complete wrist-drop and palsy of the extensors of his fingers for eight weeks. After five days of faradism he was able to extend his wrist and fingers. That result was not psychic. Therefore, Dr. Sinkler believed that the proper use of certain forms of electricity was a remedy in many conditions.

DR. CHARLES R. BALL, St. Paul, reported the case of a patient who had received a fall in a runaway and evidently had hemorrhage of the spinal cord in the cervical enlargement. He had something of the nature of the so-called Brown-Séquard symptom-complex paralysis of motion on one side and of sensation on the other. This man last winter had been brought into the hospital after having lain on his back three years, unable to feed himself and absolutely helpless. Yet in four to five months' time, with daily treatment by means of a simple faradic battery, the man had been put on his feet and was now able to walk several miles without sitting down, could feed himself and partially dress himself. Dr. Ball said that perhaps that result could just as well have been obtained by other means, but it seemed to him doubtful if any form of massage could so have selected and separated the muscles atrophied from disuse and from disease and have developed the muscles still capable of development as did electricity. It seemed to Dr. Ball that such results as that proved electricity an important factor in the medical armamentarium that should not be neglected. Another case cited by Dr. Ball was that of a man 75 years old, stupid and feeble-minded, with cortical degeneration, and blood pressure at 180. He had been a hack-driver but was entirely unable to follow his occupation, because of mental dulness. With treatment by autocondensation every other day, inside of ten days this man became bright, alert and natural; his blood pressure went down from 180 to 165. Dr. Ball believed that to be electrical nihilists would deprive the profession of the use of an important therapeutic agent, valuable where intelligently applied in many ailments.

DR. FRANK R. FRY, St. Louis, believed that the mere citation of individual cases would not have much weight without comparison with control experience and consideration of the different ways of looking at results by different persons. In the treatment of rest-cure cases, Dr. Fry said that he had formerly been accustomed to use the faradic battery, but he now found that he could get very good effects from brush massage. He had written his paper, not to deny the possibility of obtaining results from electricity, but to suggest the advantage of occasionally recasting current ideas on the subject.

THE SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS,

BASED ON A SERIES OF FORTY CONSECUTIVE CASES.*

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BOSTON.

This report is based on a series of forty consecutive cases of epidemic cerebrospinal meningitis treated with Dr. Flexner's antimeningitis serum. All cases in which the *Diplococcus intracellularis* was found in the cerebrospinal fluid, without regard to the type of case or stage of disease, are included in the series. Sixteen cases occurred in the Children's Hospital in the service of Dr. Rotch, eight cases occurred in various other hospitals in cities and towns of Massachusetts, and sixteen cases occurred in private practice.

CONDITIONS OF ADMINISTRATION.

The antiserum was administered in all cases by injection into the cerebrospinal canal according to the technic recommended by Dr. Flexner and described in a previous publication.[1] As soon as a suspected case was reported to me, lumbar puncture was at once performed. If the cerebrospinal fluid obtained was cloudy, the antiserum was injected at once, without waiting for the bacteriologic examination of the cerebrospinal fluid, and if fluid was clear, no antiserum was given until subsequent examination revealed the presence of the *D. intracellularis*.

Thus in some cases of meningitis in which other organisms, pneumococcus or streptococcus, were subsequently found, the patients were given one injection of antiserum. In none of them did its use appear to do any harm. These cases are, of course, not included in the series, but are mentioned in order to bring forward the point that I believe the advantages to be gained by the earliest possible use of the antiserum in epidemic cerebrospinal meningitis are great enough to outweigh any possible disadvantage from its use in other forms, and that it should be used at once in all cases in which the patients have cloudy cerebrospinal fluid.

In those cases in which a rapid and marked improvement in the symptoms occurred after the first injection, accompanied by a permanent fall of temperature to the normal, no further injection was given. In those cases in which this did not occur, the injections were repeated daily until nervous and subjective symptoms were completely relieved and the temperature had reached the normal, or until four doses had been given. In resistant or relapsing cases further doses were given according to circumstances. The routine dose was 30 c.c.; in many instances larger doses were given, the maximum being 45 c.c. In some instances, when the amount of fluid obtained was small, and in all instances when too great an increase of intradural pressure was feared,

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* Read at the Annual Meeting of the American Pediatric Society, Delaware Water Gap, Pa., May 25-27, 1908. The discussion on this paper and on the paper of Dr. Churchill, which follows, will be found under Society Proceedings, this issue.

1. Boston Med. and Surg. Jour., Feb. 19, 1908.

smaller amounts were injected, the minimal being 10 c.c. This was the general routine; there were some exceptions.

The serum has been used in forty-five cases of epidemic cerebrospinal meningitis, but cases still pending are not included in the series. Of the forty finished cases nine patients have died and thirty-one have recovered. This is a mortality of 22.5 per cent. and a rate of recovery of 77.5 per cent. Of the thirty-one cases in which the patients recovered, two were left with sequelæ, one being deaf and one both blind and deaf. The recovery was complete in twenty-nine cases, or in 72.5 per cent.

Mortality figures are never of conclusive value, on account of the variations in the mortality rate with various localities, seasons and epidemics. I believe, however, that this low mortality rate is of considerable significance as bearing on the value of the Flexner antiserum. I have collected a number of reports, from various epidemics and hospital records, from which the average mortality appears to be between 70 and 80 per cent. Although in certain epidemics it has been considerably lower than this, it has never fallen nearly so low as in this series of cases.

OBJECTIONS MET.

The significance of these figures as bearing on the value of the antiserum may be objected to on the following ground: That, as the mortality of this disease

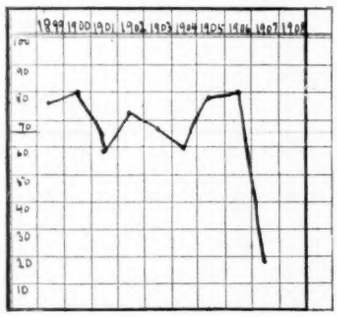

Figure 1.

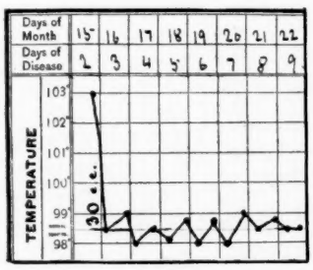

Figure 2.

Fig. 1.—Chart showing death rate from cerebrospinal meningitis at the Children's Hospital from 1899 to 1908.

Fig. 2.—Case 10. Showing temperature curve in aborted case. Early injection of antiserum followed by critical fall of temperature and immediate cessation of all symptoms.

3. The common type, in which the patients were not unconscious, but very apathetic or in mild delirium, with fairly good general condition when seen.

4. The mild type, in which the patients were perfectly rational, with headache, rigidity, or retraction, and good general condition.

5. The chronic type, in which the patients were seen late in the course of the disease, unconscious, but without fever or active symptoms.

In the present series these types were distributed as follows:

Type.	Cases.	Deaths.
1. Fulminating	3	1
2. Severe	6	2
3. Common	19	1
4. Mild	6	0
5. Late chronic	6	5

BASIS OF COMPARISON.

I have not been able, for purposes of comparison, to collect enough cases treated in Boston and vicinity this year without the antiserum. It is possible, however, to compare the mortality at the Children's Hospital this

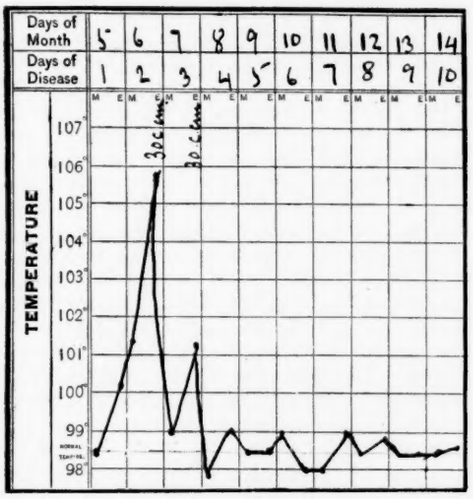

Figure 3.

Fig. 3.—Case 32. Aborted case, with slow onset on the first day, becoming suddenly fulminant on the second day. Injection of antiserum followed by crisis, and the immediate and permanent relief of symptoms.

is known to present wide variations at different times, the present series of cases may represent a particularly mild type of disease prevalent this year in Boston and the surrounding cities and towns. In answer to this objection I would say that clinically the type of disease prevalent this year has not been milder than that which occurs every year sporadically in Boston and its vicinity. It must be remembered also that all types were included in the series, fulminating cases in which the patients were moribund when seen, chronic cases with the patients in the latest stage of exhaustion, and cases in which the patients died of an intercurrent disease while under treatment.

The disease may for convenience be divided into the following types:

1. The well-known fulminating type, in which the progress of the disease was so rapid that the patients when seen were already in an extremely serious condition, with profound coma and weak heart.

2. Severe cases, in which the patients were unconscious, or in violent delirium, with poor general condition.

year under the use of the antiserum with the mortality in other years under other methods of treatment, as sufficient cases have been treated in this hospital each year to afford a basis for such a comparison. While the number of cases treated each year varies, the average yearly number for the last ten years is twenty. This comparison also throws light on the comparative value of the treatment with the antiserum and of other methods.

Up to 1903 the treatment was largely symptomatic. In 1903, 1904 and 1905 lumbar puncture was largely employed as a therapeutic measure. Whenever the withdrawal of the cerebrospinal fluid appeared to be followed by improvement in the patient's condition, it was repeated at short intervals, particularly at those times when the condition showed any tendency to grow worse. It was concluded at that time that repeated lumbar puncture is of some slight value as a therapeutic measure. In 1906 the cases were treated by the frequent or daily administration subcutaneously of diphtheria antitoxin.

In 1907 a vaccine prepared from the *D. intracellularis* was used in connection with the estimation of the op-

TABLE OF RESULTS OF USE OF SERUM IN CEREBROSPINAL MENINGITIS.

No.	Age.	Dates of Injections.	Total Amount Given in c.c.	Maximum Single Dose in c.c.	Day of Disease.	Type of Case.	No.	Immediate Effect.	Duration of Fever.	Temperature Range.	Duration of Symptoms.	Result.
1	3 years.	Nov. 6, 7, 8, 9, 25, 26. . .	105	30	2	Common. . . .	1	Temporary fall of temperature.	23 days. .	99–105	20 days.	Complete recovery.
2	3½ years.	Nov. 14, 15, 16, 17, 25, 26, 27, 28.	200	30	8	Common. . . .	2	Temporary fall of temperature.	16 days. .	99–103	16 days.	Complete recovery.
3	3 years.	Nov. 15, 16.	30	15	14	Chronic stage	3	None..	. . . . .	. . . . .	. . . . .	Death.
4	6½ years.	Nov. 28, 29, 30, Dec. 1. .	120	30	3	Severe.	4	Marked relief of symptoms.	6 days. .	99–103.6	3 days.	Complete recovery.
5	1 year. .	Dec. 10, 11, 12, 13, 18, 19, 20, 21.	325	40	21	Chronic stage. .	5	Permanent fall of temperature.	1 day . .	101–102	. . . . .	Death.
6	6 years.	Dec. 17, 18, 20.	90	30	2	Common.. . . .	6	Critical fall of temperature to normal; relief of symptoms.	5 days. .	98–101	2 days.	Complete recovery.
7	7 years.	Dec. 22.	30	30	1	Mild..	7	Permanent fall of temperature.	1 day . .	98.4–99.6	4 days.	Complete recovery.
8	10 years.	Dec. 27, 28, 29, 30. . .	100	30	4	Common.. . . .	8	Marked relief of symptoms.	5 days. .	98–100	1 day. .	Complete recovery.
9	6 years.	Jan. 6 (twice)	60	30	1	Fulminant. . .	9	Fall of temperature to normal; marked relief of symptoms.	12 days. .	99–100	2 days.	Complete recovery.
10	4 years.	Jan. 15.	30	30	2	Severe.	10	Fall of temperature to normal; marked relief of symptoms.	12 hours.	. . . . .	1 day. .	Complete recovery.
11	21 years.	Jan. 23, 24, 28, Feb. 3. .	180	45	21	Severe in chronic stage.	11	Slight fall in temperature; no relief of symptoms.	2 days. .	. . . . .	. . . . .	Death
12	14 weeks.	Jan. 28, 29, Feb. 2, 8, 10.	90	30	5?	Common. . . .	12	Fall of temperature. .	15 days. .	98–100	2 days.	Complete recovery.
13	29 years.	Feb. 6, 7	60	30	8	Mild..	13	None..	4 days. .	99–102	4 days.	Complete recovery.
14	9 years.	Feb. 7, 8, 9, 10	120	30	5	Common.. . . .	14	Fall of temperature; marked relief of symptoms.	6 days...	99–103	6 days.	Complete recovery.
15	8 years.	Feb. 6, 7, 8, 9, 16, 19, 20, 21.	270	45	5	Common.. . . .	15	Fall of temperature; marked relief of symptoms.	16 days. .	98.6–103.8	5 days.	Complete recovery.
16	2 years.	Mar. 1, 2, 3, 5.	120	30	3	Severe.	16	Marked relief of symptoms.	7 days. .	100–102	8 days.	Complete recovery.
17	11 mos. . .	Feb. 25, 26	60	45	?	Chronic... . . .	17	None.	1 day . .	. . . . .	. . . . .	Recovered; blind and deaf.
18	16 years.	Feb. 20, 21, 23, Mar. 2 .	120	30	18	Common.. . . .	18	Slight relief of symptoms; lysis.	8 days. .	. . . . .	8 days.	Death, bronchopneumonia.
19	3½ years.	Mar. 17, 18, 19, 20. . . .	140	40	11	Common.. . . .	19	Temporary collapse..	17 days. .	. . . . .	5 days.	Complete recovery.
20	5 mos.. .	Mar. 11, 13, 17, 19. . . .	45	15	4	Common. . . .	20	Marked improvement in general condition.	10 days. .	. . . . .	7 days.	Complete recovery.
21	13 years.	Mar. 18.	30	30	29	Chronic moribund.	21	None..	. . . . .	. . . . .	. . . . .	Death 3 days.
22	16 years.	Mar. 21, 22, 23, 25, Apr 4.	150	30	5	Common.. . . .	22	Fall of temperature; relief of symptoms.	. . . . .	. . . . .	. . . . .	Complete recovery.
23	4 years.	Mar. 21, 23.	60	30	50	Chronic, mild..	23	Improvement in general condition.	. . . . .	. . . . .	8 days.	Complete recovery.
24	2 years.	Mar. 22.	30	30	8	Mild..	24	Relief of symptoms; otitis media.	. . . . .	. . . . .	7 days.	Complete recovery.
25	2 years.	Mar. 25.	120	30	3	Common.. . .	25	Marked relief of symptoms.	3 days. .	100–105	4 days.	Complete recovery.
26	4½ years.	May. 25, 26, 27, 28. . . .	120	30	5	Common.. . .	26	Relief of symptoms . .	7 days. .	. . . . .	8 days.	Complete recovery.
27	21 years.	Mar. 24, 25, 27, Apr. 1, 2, 3, 4, 15, 16, 17, 18.	330	30	3	Severe..	27	Rapid fall of temperature; relapses.	. . . . .	. . . . .	. . . . .	Death.
28	5 years.	Mar. 25, 26, 27, 28, Apr. 3, 6, 8, 15, 16, 17.	305	40	2	Severe..	28	Slight improvement in general condition.	24 days. .	. . . . .	25 days.	Recovery; deaf.
29	9 years.	Apr. 11, 12	145	30	3	Common.. . . .	29	None..	14 days. .	. . . . .	13 days.	Complete recovery.
30	29 years.	Mar. 30, 31..	60	30	3	Fulminant.. . .	30	Temporary return to consciousness.	. . . . .	. . . . .	. . . . .	Death in 28 hours.
31	16 years.	Mar. 30, 31, Apr. 1, 2. .	120	30	6	Mild..	31	Marked relief of symptoms.	3 days. .	. . . . .	3 days.	Complete recovery.
32	5 years.	Apr. 6, 7	60	30	2	Fulminant. . .	32	Permanent fall of temperature; marked relief of symptoms.	1 day . .	. . . . .	1 day. .	Complete recovery.
33	24 years.	Jan. 25, 27	60	30	21	Common.. . . .	33	Permanent fall of temperature and complete relief of symptoms.	1 day . .	. . . . .	1 day. .	Complete recovery.
34	7 years.	May 4, 6	45	30	8	Common.. . . .	34	Relief of symptoms; permanent fall of temperature.	1 day . .	. . . . .	1 day. .	Complete recovery.
35	4 years.	Apr. 19, 20, 21, 25.. . . .	105	30	5	Mild..	35	Complete relief of symptoms.	7 days. .	. . . . .	1 day. .	Complete recovery.
36	21 mos.. .	May 11, 12	60	30	2	Common.. . . .	36	Marked relief of symptoms.	2 days. .	. . . . .	4 days.	Complete recovery.
37	14 years.	Apr. 21, 22, 23, 27, 28, 29.	180	30	. .	Common.. . . .	37	Relief of symptoms.. .	10 days. .	. . . . .	10 days.	Complete recovery.
38	15 years.	Apr. 26, 27	60	30	. .	Severe..	38	Slight fall in temperature; no relief of symptoms.	. . . . .	. . . . .	. . . . .	Death in 29 hours.
39	2 years.	Apr. 24, 25, 27.	45	15	. .	Late, chronic..	39	None..	. . . . .	. . . . .	. . . . .	Death in 2 weeks.
40	4 years.	Apr. 30, May 1, 2, 3, 6, 10.	195	45	. .	Common.. . . .	40	None..	14 days. .	. . . . .	6 days.	Thoroughly convalescent.

sonic index. Each year is regarded as beginning November 1 of the preceding calendar year, because we began to use the antiserum in November, 1907. I could not find any notable variation in the type of the disease from year to year. Figure 1 shows the figures.

It appears that the lowest mortality of any year before this was 58 per cent., and that it varied between 58 per cent. and 80 per cent., but that this year, under the use of the Flexner antiserum, the mortality has shown a remarkable drop to only 19 per cent. We may conclude that the other methods of treatment, vaccines, diphtheria antitoxin, and repeated lumbar puncture, are of little value in comparison with the antiserum.

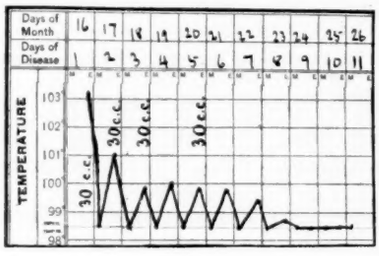

Fig. 4.—Case 6. Early injection of antiserum followed by temporary fall of temperature to normal, with marked relief of symptoms. Subsequent defervescence by lysis. This chart is typical of the commonest result of the early use of the serum in a severe case.

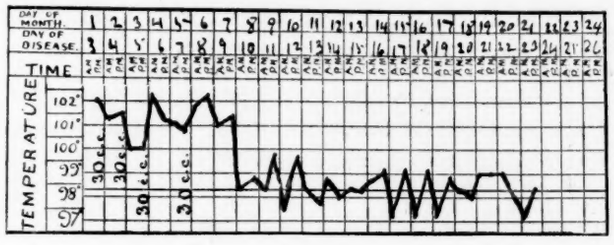

Fig. 5.—Case 16. Early injection of antiserum followed by gradual improvement in symptoms, and crisis after five days.

LIMITATIONS OF THE SERUM.

The nine fatal cases in the series throw a certain amount of light on the limitations of the value of the serum. Of these nine, five were cases seen late in the course of the disease, at a time when the patients were in the well-known chronic stage, unconscious, and without fever or active symptoms. In one of these the serum was not given until the patient was actually moribund. Of the other four cases, one was of the fulminating type, one a very severe case, and one patient died of an intercurrent bronchopneumonia, coming on after the temperature had come down to normal and all meningeal symptoms had subsided. The last case was one of average severity, in which the serum appeared to produce a slight improvement in the beginning, but which later appeared uninfluenced by the antiserum, advanced into the chronic stage, and a fatal result ensued after many weeks of illness.

My belief in the great value of the Flexner antimeningitis serum is based not chiefly on its apparent effect on the mortality of the disease, but on the very marked and striking effect which its use appears to produce in individual cases. It so modifies and changes the course of the disease as to present a very sharp contrast with the course usually seen in cerebrospinal meningitis treated by other methods.

Epidemic cerebrospinal meningitis, while showing wide variations in symptomatology and severity, presents certain characteristic features, to which we have become accustomed. In the fulminating and severe cases the patients either grow progressively worse and die in a comparatively early stage, or the disease gradually passes into a chronic stage in which the patient lies unconscious, with a varying fever for weeks or months. In time the fever disappears, but death usually occurs after a long period of illness. Even in the common and milder types, when recovery occurs, it is usually after a prolonged illness, often reaching many weeks. In the records of the last nine years at the Children's Hospital I could find no instance in which a proven case of cerebrospinal meningitis was aborted or terminated suddenly by crisis.

EFFECTS OF THE SERUM.

The three principal effects of the use of the serum seem to be: First, to produce a fall of temperature; second, to produce a rapid improvement in the patient's general condition, accompanied by a more or less marked relief of certain symptoms, and, third, to cut short the course of the disease.

The most striking effect on the temperature is a permanent critical fall following the first dose of serum. This occurred in ten cases, the temperature falling at once to normal, or nearly normal, and showing no further tendency to rise. Other cases showed a similar critical fall of temperature, which was, however, not permanent, the temperature rising again and finally coming down by lysis. Such a temporary crisis occurred in four cases. Another effect was seen in a rapid permanent lysis, which was very striking in cases in which there had been a consistent high temperature up to the time

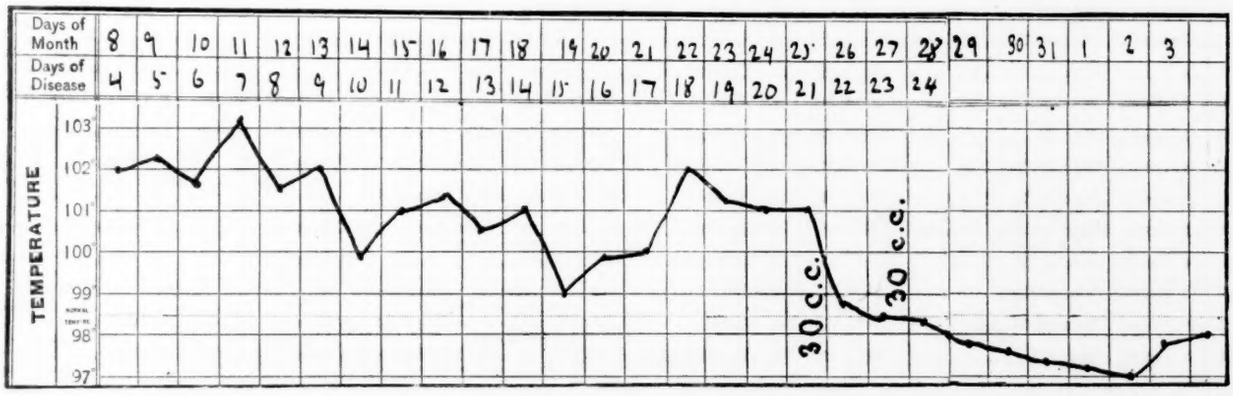

Fig. 6.—Case 33. Late injection of antiserum followed by immediate crisis and very rapid convalescence.

when the first dose of serum was given. This occurred in nine cases. A similar lysis, but not permanent, the temperature going up again, occurred in two cases. A temporary sharp fall of temperature, not to the normal and not permanent, occurred in four cases; in these the temperature rose again, to come down by lysis later in the course of the disease. There was no immediate effect on the temperature noted in five cases. In the remaining six cases the patients had a normal temperature

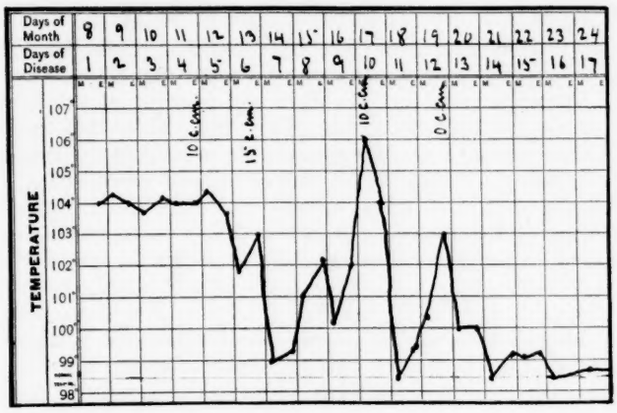

Fig. 7.—Case 20. Tendency to relapse, controlled by small doses of antiserum.

when the serum was given. See illustrative charts (Figs. 2 to 9).

ITS EFFECT ON SYMPTOMS.

The effect on the symptoms and general condition is the most striking phenomenon observed with the use of the serum. In some cases there occurred a permanent return to consciousness, a disappearance of mental dulness, a disappearance of delirium, and a disappearance of headache, hyperesthesia, tenderness of the neck or vomiting. These symptoms were often relieved completely within twenty-four hours after the first injection, the patient changing in the most remarkable way from a serious condition of coma to a favorable condition of normal mental activity.

At other times the improvement in this set of symptoms occurred more slowly, and at still other times, particularly in the late chronic cases, no such effect was noted. The rigidity of the neck and Kernig's sign were usually much more persistent, so that at times patients remained for some time normal in every way, even playing with the other children of the ward while these signs still persisted. The frequency of occurrence of this improvement in the symptoms and general condition is shown by the following table:

Improvement.	Cases.
Immediate marked	18
Immediate slight	6
Immediate temporary	4
Slower	7
None (all late chronic)	5

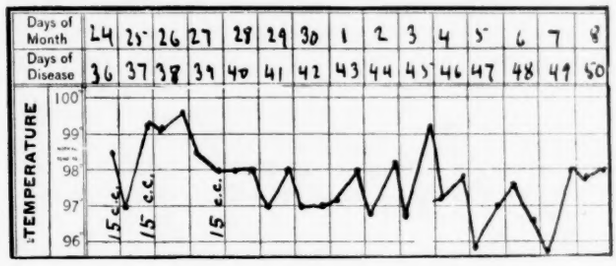

Fig. 9.—Case 39. Late case in chronic stage, with subnormal temperature after five weeks' illness. No effect from antiserum, and death from exhaustion.

As to the cutting short of the disease, the average length of time which patients remained under treatment was but a small fraction of the time which patients who recovered remained under treatment at the hospital in previous years. The duration of symptoms after the first dose of serum, including the rigid neck and Kernig's sign, which were the last to disappear, is shown as follows:

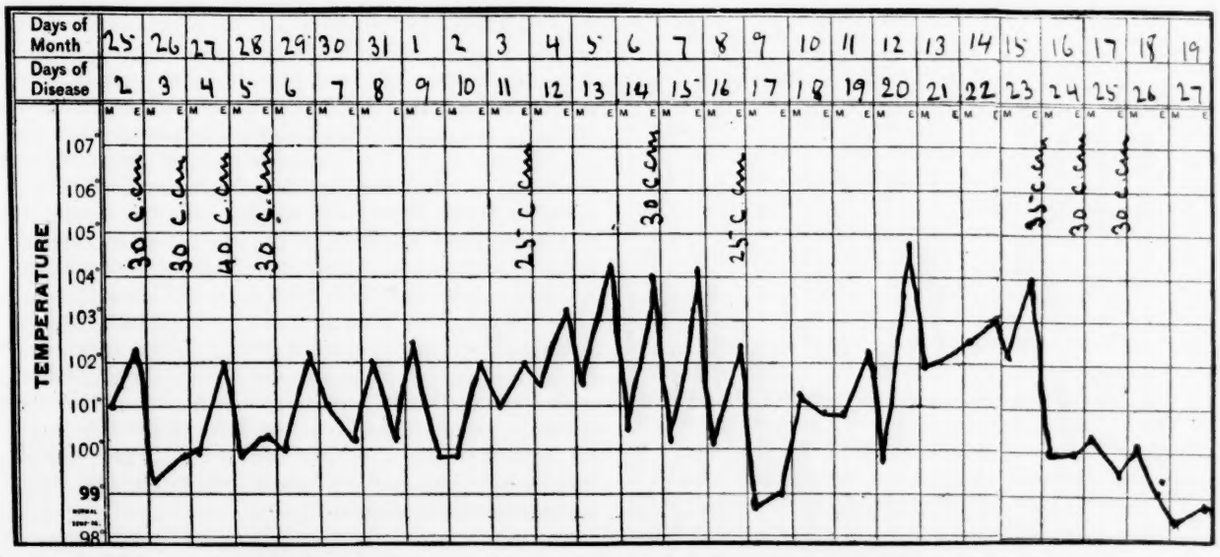

Fig. 8.—Case 28. Resistant case, in spite of early use of antiserum. Early improvement in symptoms, but persistent fever.

DURATION OF SYMPTOMS.

Weeks.	Cases.
1, or under	20
2	7
2 to 3	2
Over 3	2

ITS EFFECT ON THE CEREBROSPINAL FLUID.

Another notable effect of the serum is seen in the successive examinations of the cerebrospinal fluid during

the period of its use. This effect is most striking in early cases, in which the cerebrospinal fluid contains large numbers of diplococci. In such a case a great many intracellular diplococci are observed in the fluid withdrawn by the first lumbar puncture. Twenty-four hours after the first injection the fluid presents a strikingly different picture. The whole number of organisms seen is much smaller, but the chief change is that the majority are intracellular, only rare extracellular forms being seen. The third lumbar puncture shows still fewer diplococci, and those only intracellular. In the fourth fluid, after three doses, there are frequently no diplococci to be found, or, at most, very rare intracellular forms.

Relapses sometimes occur under the use of the serum (Fig. 7). In a relapse, after a period of improvement, the symptoms begin to recur and the temperature to rise. This happened in seven cases. In two of these cases the serum was given in small single doses and was not repeated daily, although symptoms were not completely relieved, the treatment being repeated only in single doses when the relapses became plainly manifest. Each relapse responded to one dose of serum, but I believe the course of the disease would have been shortened if the treatment had been pushed at the outset, or if several successive doses had been given at the first relapse. In one case the treatment at the outset was interrupted by inability to obtain cerebrospinal fluid. Later, when the relapse occurred, it yielded promptly and permanently to three successive daily injections. In the remaining four cases the relapse occurred in spite of proper treatment at the outset. In two of these, treatment of the relapse by single doses of serum gave only temporary improvement, but both cases yielded permanently when four successive full doses were given.

THE LACK OF SEQUELÆ.

The completeness of recovery is another noteworthy point in this series. There were sequelæ in two cases only, one child being deaf and one blind and deaf. The results of the use of the serum appeared to depend chiefly on how early it was first used. The earlier it was employed the more marked were its effects. In 5 cases the disease was suddenly aborted after one dose of serum—that is, there was an immediate fall of temperature to normal and all symptoms were at once completely and permanently relieved. In 4 of these cases the serum was given in the first forty-eight hours. The fifth case was an exception, the disease having run a steady unchanged course for twenty-one days, with constant fever and symptoms. A crisis took place and there was complete relief of symptoms after one dose of serum. In 17 cases there was very rapid and permanent improvement, with a short convalescence. In 13 of these cases the serum was given in the first week, in 3 in the second week, in 1 in the third week, and in 1 case the patient was in the chronic stage, having been ill fifty days; in this case the temperature was normal when the serum was given, but the child was vomiting and in very poor condition. The organisms were still fairly numerous in the cerebrospinal fluid. Vomiting ceased and very rapid improvement occurred after one dose of serum. In 9 cases improvement was slower, with or without relapses. In 7 of these cases the serum was given in the first week, and in 1 in the second week. In 8 cases the serum had no marked effect; of these, 3 were in the first week, the other 5 being late chronic cases.

The relation between the mortality and the stage of the disease is shown by the following table:

Serum given in first week, 8 per cent.
Serum given in second week, 0 per cent.
Serum given after second week, 77 per cent.

We may conclude that the prospects of aborting or rapidly cutting short epidemic cerebrospinal meningitis are better the earlier in the disease the serum is given, and that the antiserum usually has no effect in the late chronic stage. There were cases which proved exceptions to this rule, as in three cases in which the serum was used comparatively early the patients died. On the other hand, one patient in the late chronic stage began to improve immediately after one dose of serum and made a rapid convalescence. This would show that there is always some hope of a good result so long as diplococci are present. I believe the serum in most cases causes a cessation of the active process and that the resulting course of the disease depends mainly on the extent of tissue damage which has already been done.

AMOUNT OF SERUM TO BE GIVEN.

As to the amount of serum which should be given, I was at first afraid to inject amounts larger than the quantity of cerebrospinal fluid withdrawn. After several patients, to whom small doses had been given, had shown a less favorable course, more prolonged illness and a tendency to relapse, I began to use larger doses. A few patients showed signs of collapse immediately after an injection, but in no case were these signs of long duration, nor did they end in death. I believe that 30 c.c. can be given usually with perfect safety, even when smaller amounts of fluid are withdrawn. I have given, without any bad results, as much as this when no fluid was withdrawn. One can judge to a certain extent how far it is safe to go by the feeling of resistance to the injection of the serum. In cases in which larger amounts of fluid are withdrawn I believe 45 c.c. should be given at a dose.

The daily injection of the serum in most cases seemed to be effective. After four doses have been given, if, after one or two days the case proves resistant, or at any time if there is a tendency to relapse, this treatment should be repeated. It is a question whether in some severe cases the serum should not be administered oftener than once in twenty-four hours. In two very severe cases death occurred in spite of the early use of the serum. In both of these cases a notable improvement was shown after the first dose and continued up to within a few hours of the time I arrived to give the second injection. Then both patients began to grow rapidly worse, so that when the second injection was given the condition of each was practically hopeless. I think it is possible these patients might have been saved by more frequent use of the serum, and I believe fulminating cases should be very closely watched and provision made for giving a second dose at any time.

CONCLUSIONS.

I conclude from this series of cases that:

1. The use of the Flexner antiserum is of great value in epidemic cerebrospinal meningitis. I believe its value to be comparable to that of diphtheria antitoxin in diphtheria.

2. The use of the serum at times aborts the disease, frequently rapidly relieves its symptoms, shortens its course, lessens the liability to sequelæ, and greatly reduces its mortality.

3. The serum should be used as early as possible in all cases, even of suspected epidemic meningitis.

4. It should be frequently repeated as long as there are symptoms or any tendency to relapse.

5. Late chronic cases are unfavorable for the use of the serum, but any case in which the diplococci are present has some hope of relief by its use.

6. Some cases are resistant.

220 Marlborough Street.

TREATMENT OF MENINGOCOCCIC MENINGITIS WITH THE FLEXNER SERUM.

REPORT OF CASES.*

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CHICAGO.

I have had the opportunity of using the Flexner serum in 11 cases of meningococcic meningitis. The number is, of course, small, but I am reporting them now in order to call the attention of the profession anew to this method of treatment of epidemic meningitis. The serum is still on trial. Its efficacy is not yet proven. Enough has been accomplished by its use, however, to warrant, or rather to necessitate, a much more extended trial of it. It is desirable that it should be used in a large number of cases, records carefully kept, collected and analyzed. Dr. Flexner has kindly furnished me with the serum for general use in this community, requesting that records be kept of all cases, collected and forwarded to him.

In the 11 cases (all in Chicago) in which the serum was used, 7 of the patients have recovered, 4 have died. Of the 4 patients who died, only 2 of the cases were proved by bacteriologic examination to be of the meningococcic type, and, of these two, one was of the fulminating type, and in the other the patient entered the hospital in a moribund condition on the tenth day of the disease. Thus, in 7 of the 9 proved cases the patients have recovered.

It is not the purpose of this paper to describe at length the symptoms in the cases. All were clinically meningitis and, except in the two already mentioned, the meningococcus was found in the spinal fluid on lumbar puncture. I wish only to call attention to the effect of the serum on the disease as a whole, on the general condition of the patients, on the leucocyte count and on the spinal fluid as manifested by color, number of leucocytes and organisms.

The technic of giving the serum is simple. A lumbar puncture is done and, if possible, 30 c.c. of fluid is withdrawn. Then to the canula still in place is attached an ordinary antitoxin syringe, the serum poured from the bottle into the barrel of the syringe and allowed to run directly into the spinal canal. As a rule, the piston must be used to force at least the last part of the serum. The serum should be heated to body temperature before using. This may be done by standing it in warm water. Flexner recommends, for the present, a dose of 30 c.c., to be repeated every 24 or 48 hours, for 3 or 4 times if there be no improvement. It also seems safer to withdraw spinal fluid equal in amount to the serum to be injected, to avoid pressure symptoms. Some cases have been reported, however, in which no fluid whatever has been withdrawn and as high as 20 c.c. of the serum injected without bad results. If, for any reason, it is found impossible to inject into the spinal canal, the serum may be given subcutaneously, but good results are not expected by this method.

* Read at the Annual Meeting of the American Pediatric Society, May 25-27, 1908.

CASES

CASE 1.—*Patient.*—R. S., school girl, aged 14, entered the Presbyterian Hospital March 11, 1908. Service of Dr. A. C. Cotton.

History.—Eleven days before admission she began to have severe headache, followed by vomiting. On attempting to walk, she would fall on her side. Unconscious since 9 a. m. of day of admission. Just before becoming unconscious she said she could not see.

Examination.—Well developed and well nourished girl, apparently moribund. Head retracted and rigid. Slightly cyanotic, breathing stertorous. Pupils dilated, reacting sluggishly to light. Deviation of eyes to left. Numerous medium and coarse râles everywhere throughout the chest. Respiration irregular. Heart regular, rapid, fair strength. Abdomen flat. *Tâche cérébrale.*

Treatment.—Lumbar puncture at 12 midnight, and about 30 c.c. of cloudy fluid withdrawn and 15 c.c. serum injected. Smears and cultures from the spinal fluid showed a gram-negative diplococcus, intracellular, corresponding morphologically and culturally to the meningococcus. Cultures from the nose showed the same organism. The child was practically moribund on admission. She sank steadily and died at 4 p. m. the next day, March 12. The temperature ranged from 101 to 103 F., the pulse and respiration were continuously rapid. The serum had no effect on her condition, except possibly on the leucocyte count. This was 34,000 at 11 p. m. on March 11, before the injection, and 24,000 at 11 a. m., the next day, 11 hours after injection. The drop may or may not have been due to the serum.

CASE 2.—Baby R., girl, aged 2; service of Drs. Hughes and F. B. Earle, Chicago; entered St. Bernard's Hotel Dieu, March 4, 1908.

History.—Uncle died of meningitis years ago. Family history otherwise negative. Child was normal at birth, after an instrumental delivery. Never breast fed, brought up on artificial food; always delicate; had considerable digestive disturbance during the first few months of life. Early in January, 1908, had an attack of enterocolitis and "bronchitis," but improved after two weeks' treatment. For about one week before admission, had been drowsy and "lifeless," vomiting all food; had had apparent fever, restless sleep, retracted head and apparent general pain on being handled. No convulsions.

Examination.—Fairly well-nourished. Head square, retracted, produced pain on being moved. Chest negative except for rachitic rosary. Abdomen distended. Child lay with legs flexed stiffly and cried out when they were extended. Leucocyte count 30,000. Urine showed albumin, otherwise negative.

Treatment.—March 6. Lumbar puncture and about 30 c.c. of clear spinal fluid removed. Smears showed some polymorphonuclears. Baby seemed more comfortable and brighter after puncture.

March 9. Lumbar puncture and about 30 c.c. of spinal fluid withdrawn, clear and of same character as in former punctures. Flexner serum, 30 c.c., injected into the spinal canal. Baby seemed better after puncture and injection, for about 24 hours.

March 11. Child weaker; died at 12 midnight. Exact type was not determined, evidently.

CASE 3.—*Patient.*—Moses S., aged 2, entered Michael Reese Hospital, Feb. 10, 1908. Service of Drs. Hess and Spitz.

History—Present illness began six weeks before admission, when mother noticed that the child did not look well, was not as bright as usual, cried much and was constipated. One week before admission retraction of the head began, increased steadily and when seen opisthotonos was quite marked.

Examination.—Marked emaciation, marked opisthotonos, purulent conjunctivitis. Numerous mucous râles everywhere over the chest. Abdomen negative. Kernig's sign present on both sides. Babinski reflex on left side only. Temperature, 96.7 F.; pulse, 148; respiration, 48.

Treatment.—Child remained in about this condition for two weeks with a low temperature, when a lumbar puncture was done and 20 c.c. of bloody fluid was withdrawn and 10 c.c. of serum injected. Seemed only a little better next day; second lumbar puncture and 15 c.c. of bloody fluid withdrawn, and 7.5 c.c. of serum injected. No particular change was noticed until two days later when child seemed weaker. Was then taken out of the hospital by the parents and died a few days later.

The examination of the spinal fluid in this case showed gram-positive diplococci and many polymorphonuclear leucocytes. Cultures were contaminated. The exact nature of the organism was never positively determined, but it evidently was not the meningococcus. The case can not be regarded as one of this type of meningitis and was, therefore, no test of the value of serum.

CASE 4.—*Patient.*—Joe B., aged 16, school boy, entered Cook County Hospital, April 16, 1908, service of Dr. Kerr.

History.—Family history negative. Boy said that he had a tuberculous dactylitis a few months ago, for which the finger was amputated. Six days before admission he was running a great deal and got very hot. On the day following when he got up his neck was a trifle stiff and later he had some pain in the back. The next day his legs pained him somewhat. The stiffness of the neck had increased and the head had become retracted. No headache, no nausea, no vomiting.

Examination.—Well-nourished; lay with head somewhat retracted; face flushed. Eyes normal. Slight herpes about the angle of the mouth. The neck was rigid and movement painful.

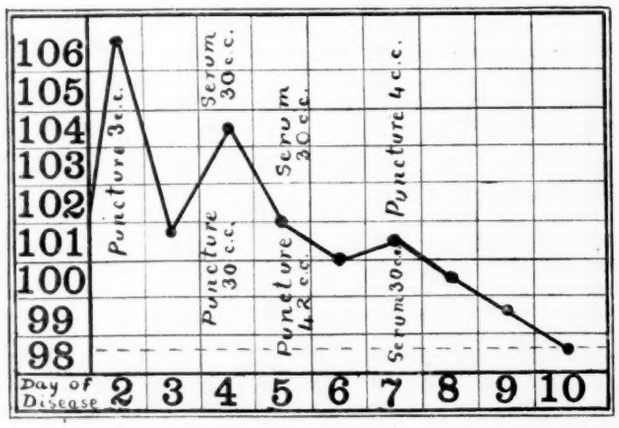

Fig. 1.—Chart illustrating temperature curve in Case 5, Frank J.

Kernig's sign present on both sides. No Babinski; movement of the lower limbs very painful.

Treatment.—April 17. Lumbar puncture and 30 c.c. of turbid fluid withdrawn, showing 2,880 leucocytes and 288 meningococci to the cu. mm. The diplococci were mostly extracellular, only 1.5 diplococci within the cell on the average. Blood: 13,600 leucocytes.

April 18: Better, less rigid. Lumbar puncture and 45 c.c. of turbid fluid withdrawn, containing fewer leucocytes and diplococci. Injection of 30 c.c. of serum into the spinal canal. Blood: 17,400 leucocytes. Restless and in pain for 6 or 8 hours after injection, then more quiet.

April 21: Much better, less rigid. Leucocytes, 15,800.

April 23: Improvement continued. Leucocytes, 20,200. Abdomen tender on right side.

April 28: Seemed perfectly well. Leucocytes, 10,200.

May 24: Went home, No sequelæ.

CASE 5.—*Patient.*—Frank J., aged 14, printer, entered Cook County Hospital, April 12, 1908, service of Dr. E. F. Wells.

History.—Scarlet fever one year ago. Ear-trouble for years, with occasional discharge. No exposure to meningitis cases. Sore throat and earache five days before admission, latter was relieved by discharge from right ear. Continued to work until night preceding admission, when he went to bed with a severe headache, vomited (projectile), had a chill.

Examination.—Well nourished boy; complained at times of severe headache and pain in back of neck, and at times muttered deliriously. Neck was rigid, pain apparently increased on moving. Pupils equal and reacted to light. Tongue coated, breath foul. *Tâche cérébrale.* Both knee-joints exaggerated. Kernig's sign present on both sides. No Babinski.

Treatment.—Lumbar puncture done and 3 c.c. of very cloudy fluid removed with difficulty. Many large diplococci 6 to 12 in each field, and pus cells in smear; a few of the cocci intracellular. Cultures showed gram-negative diplococci.

April 13: Urine showed a trace of albumin, otherwise negative.

April 14: Restless and noisy. Lumbar puncture done and 30 c.c. of purulent fluid withdrawn and 30 c.c. serum injected. Blood: Leucocytes 22,400. Profuse perspiration 6 hours after injection.

April 15: Mentally clearer but rigidity the same. Convulsion at 6 a. m. Lumbar puncture and 42 c.c. of fluid withdrawn, less cloudy, containing about half as many leucocytes as on previous day and only one diplococcus to every 6 fields. Injection of 30 c.c. of serum. Blood: 17,000 leucocytes.

April 17: Better. Lumbar puncture and 4 c.c. fluid, less cloudy, withdrawn; and 30 c.c. of serum injected. Blood: 17,000 leucocytes.

April 19: Much better; entirely rational. Urticaria on face. Blood: 8,000 leucocytes.

May 9: Had progressed steadily. Urine cleared up. Went home well.

This was a very severe case, the boy being desperately sick when the first injection of serum was given and apparently having but a slight chance of recovery. The spinal fluid at the second lumbar puncture was thick with pus cells, and, on standing, looked like the urine from a severe case of pyelitis, with a thick layer of pus at the bottom of the glass. The response to the first injection of serum was striking, as evidenced by the clearer mentality, the drop in the temperature and leucocyte curves and the clearer spinal fluid the next day. He might have recovered without the third injection, but it seemed better not to take any chances.

CASE 6.—*Patient.*—Margaret B., aged 7, from practice of Dr. E. A. Streich, Chicago.

History.—On March 28, 1908, patient was taken suddenly ill with a convulsion lasting about 5 minutes followed by complete unconsciousness for several hours. Later vomiting, restless and crying out in apparent pain.

Examination.—Patient unconscious, head retracted, neck and back rigid. Pupils dilated, did not react to light, nystagmus and strabismus present. Patellar and plantar reflexes, and ankle clonus all absent on both sides. Kernig's sign present on both sides.

Treatment.—Lumbar puncture and 10 c.c. of thick, bloody fluid withdrawn showing microscopically many red cells and a few polymorphonuclear leucocytes. No organisms found.

March 29: Patient still screamed on slight movement of head; opisthotonos marked, unconscious. Lumbar puncture and 15 c.c. of a thick, sero-purulent fluid withdrawn and 15 c.c. of Flexner serum injected. Microscopic examination of the spinal fluid showed many polymorphonuclear leucocytes, containing meningococci. Many diplococci extracellular. Cultures confirmed the smears.

March 30: Child partially conscious and complained of intense headache and severe pain in the abdomen; marked general hyperesthesia; very restless, but no longer vomiting.

March 31: Patient had not improved since previous day, still complained of headache and pain in abdomen; was crying. Rigidity persisted. Lumbar puncture, under slight chloroform anesthesia, and 15 c.c. of thin, watery, slightly turbid fluid withdrawn. It contained not nearly as many leucocytes as the previous specimen. Serum, 15 c.c. injected into spinal canal.

April 1: Child much brighter, recognized parents. No vomiting, some pain in head and abdomen. Slight opisthotonos, Kernig's sign less marked; slept comfortably a short time.

April 2: Conscious, resting quietly, opisthotonos nearly gone. Slight headache and pain in abdomen.

April 3: Cerebral symptoms had entirely disappeared, asked for something to eat.

April 4: Improvement continued. All rigidity gone; slept most of the time. From this time on the child made an uneventful recovery, except that on the thirteenth day of her illness she developed an urticaria, covering the entire body and causing intense itching. It disappeared within 48 hours. An acute parenchymatous nephritis was present at first, but had cleared up by the eighth day.

THE BLOOD DURING COURSE OF DISEASE IN MARGARET B. (CASE 6.)

March 29: Total leucocytes, 19,800; polymorphonuclears, 90.2 per cent.; lymphocytes, 9.3 per cent.; large mononuclears, 5.5 per cent.

March 30: Total leucocytes, 13,800; polymorphonuclears, 83 per cent.; lymphocytes, 15.4 per cent.; large mononuclears, 1.5 per cent.

March 31: Total leucocytes, 15,000; polymorphonuclears, 78.5 per cent.; lymphocytes, 19.8 per cent.; large mononuclears 1.7 per cent.

The total leucocyte count after this date ranged from 10,800 to 13,800.

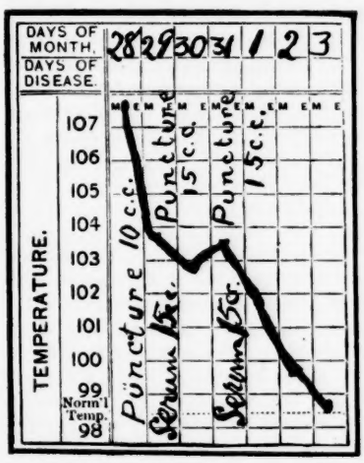

Fig. 2.—Temperature curve in Case 6, Margaret B.

Treatment.—Lumbar puncture done and 12 c.c. of turbid fluid withdrawn and 15 c.c. serum injected. Many meningococci and leucocytes in spinal fluid. Total leucocytes in blood, 15,000.

March 25: Lumbar puncture and 15 c.c. turbid fluid withdrawn, containing 2,400 leucocytes to the cu. mm. Injection of serum, 15 c.c. Blood: 12,000 leucocytes.

March 28: General condition the same. Puncture and 24 c.c. turbid fluid withdrawn containing 1,200 leucocytes to the cu. mm. Injection of serum, 15 c.c.

March 29: Brighter, less rigid.

April 2: Much worse in every way. Lumbar puncture and 15 c.c. fluid withdrawn, much more cloudy and containing 3,800 leucocytes to the cu. mm. Injection of serum, 15 c.c. Blood: 28,000 leucocytes; six hours after serum, 22,000.

April 3: No better. Blood: 21,000 leucocytes. Puncture and 30 c.c. bloody fluid withdrawn. Injection of serum 30 c.c.

April 4: Little more quiet. Leucocytes 20,000. Subcutaneous injection of 15 c.c. of serum.

April 7: Restless and noisy. Leucocytes, 12,000. Injected serum, 15 c.c., subcutaneously.

May 10: Steady improvement since last date, except for a mild attack of diphtheritic tonsillitis (ward epidemic). Went home well.

CASE 8.—*Patient.*—Wilbur L., aged 30, entered St. Luke's Hospital, April 15, 1908. Service of Drs. Nichols and Fuller.

History.—One sister died of spinal meningitis, not recently. On April 12 patient had a chill, followed by fever, vomited a great deal, had much headache and great pain in the neck. These symptoms continued for three days, when he became delirious and violent, continued thus for about twelve hours, when he became unconscious, in which condition he was brought into the hospital.

Examination.—White man, well built and muscular, in moderate coma. Head retracted; herpes on upper lip. Pupils small, equal and reacted to light. Nystagmus, eyes roll upward, photophobia. Tongue coated, breath foul. *Tâche cérébrale.* Kernig's sign present on both sides. Patellar reflexes decreased. Spine very rigid and flexion of it caused patient to cry out. Urine: Color normal, sp. gr. 1.025, much albumin, chlorids a trace only; sediment—a few red blood corpuscles, few leucocytes, few epithelial cells; few narrow, coarsely granular casts. Blood: 20,000 leucocytes, 99 per cent. of polymorphonuclears.

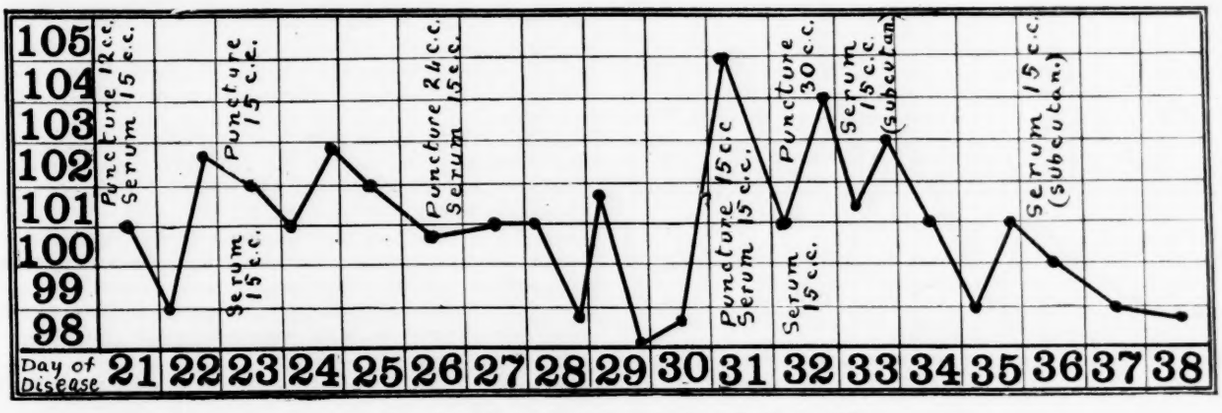

Fig. 3.—Temperature curve in Case 7, Herant M.

This was a very severe case and remarkably short in its duration. The rapid improvement after the injections of the serum made one believe that it must have been due to this method of treatment. The results are graphically shown in the temperature chart (Fig. 2).

CASE 7.—*Patient.*—Herant M., aged 9, entered Presbyterian Hospital March 23, 1908. Service Dr. A. C. Cotton.

History.—Patient was taken suddenly sick three weeks before admission with fever, nausea and vomiting, and rapidly became delirious. He could be aroused during the first three days but since then had been practically unconscious. Nausea and vomiting stopped after the third day.

Examination.—Child was semiconscious, head retracted, rigid, painful on motion. Pupils rather large, reacted to light. Cried much. Abdomen scaphoid and rigid. *Tâche cérébrale.* Extremities all rigid. Kernig's sign present on both sides. Patient cried out from time to time as if in pain. Seemed very sick.

Treatment.—Lumbar puncture, 4 p. m. fluid turbid, straw colored and contained flocculi. Albumin 1 per cent. (Esbach). Sediment showed many leucocytes, 95 per cent. polymorphonuclears, 5 per cent. mononuclears. No micro-organisms in dried smears. At 11 p. m. puncture, 15 c.c. serum injected.

April 16: Following a bad night, patient seemed worse. Rigidity as on previous day. Blood: Red corpuscles, 4,700,000; leucocytes, 9,200; differential count, poly., 93 per cent.; small mono., 6 per cent.; large mono., 1 per cent. Cultures from blood showed no organisms after 48 hours' growth on bouillon. Lumbar puncture done at 5 p. m. and 30 c.c. cloudy fluid withdrawn and 30 c.c. serum injected. Patient desperately sick, had a bad day

April 17: Another bad night; weaker. Grew steadily weaker and died at 3:15 p. m Smears from the culture of April 16 showed the same number and proportion of leucocytes as on April 15. Cultures showed the meningococcus.

This was a desperate case, a fulminating one from the start, the patient dying on the fifth day of his illness. The serum apparently affected the leucocyte count, but had no effect on either his general condition or the character of the spinal fluid. Temperature went up steadily from 101 F. at admission to 106.5 at death.

CASE 9.—*Patient.*—Raffaela, G., aged 30, house-wife; entered Cook County Hospital, April 11, 1908. Service of Dr. J. J. Herrick.

History.—Patient had been sick three weeks with severe headache, pain in back and legs. Six days before admission had a chill, two days later vomited and had another chill, more severe than the first, and has had slight chills every morning since.

Examination.—Patient lay in bed moaning at times. Seemed fully conscious of her surroundings, answered questions through an interpreter, but easily lapsed into a kind of stupor. Neck rigid and painful on moving. Face flushed. Pupils equal, contracted and reacting slightly to light. Tongue coated and dry. Abdomen retracted. *Tâche cérébrale.* Knee jerks brisk; Kernig's sign present on both sides; no Babinski. Blood: 19,000 leucocytes.

Treatment.—Lumbar puncture and 10 c.c. cloudy fluid obtained, many meningococci.

April 16: Restless and violent. Puncture and 30 c.c. turbid fluid withdrawn containing 4,250 leucocytes to the cu. mm., but

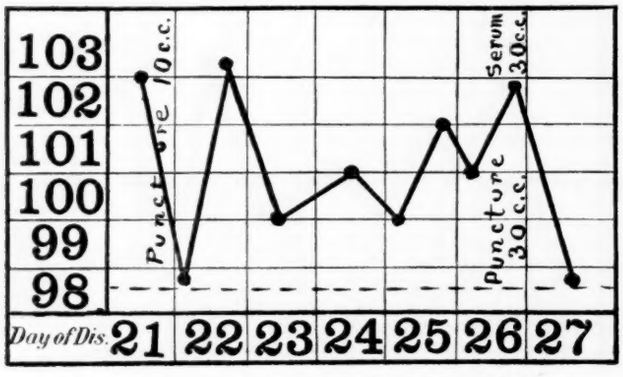

Fig. 4.—Temperature curve in Case 9, Raffaela G.

only one diplococcus in several fields. Injection of serum, 30 c.c. Blood: 15,000 leucocytes.

April 17: Leucocytes, 8,200.

April 22: Puncture unsuccessful.

May 9: Disease ran a protracted course, gradually clearing up. The single dose of serum may or may not have influenced the final result. The only immediate effect was the sharp drop in temperature to normal. It never went up again. A similar drop took place after the first puncture (without any serum), followed, however, by an immediate rise.

CASE 10. *Patient.*—Charles T., aged 19, entered Presbyterian Hospital 7 p. m., May 8, 1908. Service of Dr. Billings.

History.—Patient was as well as usual on the morning of the day he was admitted and went to work. At 3 p. m., while at work, he was suddenly seized with a severe chill, followed by fever, pain in head and abdomen. He stopped work, laid down and slept for a few minutes and was then taken home and put to bed, talking incoherently. He vomited a small amount of greenish material. Temperature, 104 F.

Examination.—(7 p. m.) Well developed and well nourished young man. Head slightly retracted, not rigid. Eyes normal. Loud systolic *bruit* heard at the apex. Marked kyphosis in lower dorsal region. Extremities, flexed on abdomen. Kernig's sign absent on both sides. Babinski absent. Blood: (10 a. m.) 23,600 leucocytes; blood pressure, 98 mm. Hg. At 5 p. m., blood 28,000 leucocytes.

Treatment.—May 9: Had a restless night. Lumbar puncture done at 10:30 a. m. and about 30 c.c. of cloudy fluid evacuated under considerable pressure, containing 24,000 leucocytes to the cu. mm. Smears showed a gram-negative diplococcus 1 to every 10 cells, extra-cellular, resembling the meningococcus. Cultures confirmed this. Patient was not relieved by puncture. At 5 p. m., puncture done again and 15 c.c. of bloody fluid obtained and 25 c.c. of serum injected.

May 10: Restless for ten hours after puncture, then slept and awoke entirely rational, with normal temperature, but rigidity the same. Blood: 14,200 leucocytes.

May 11: Rigidity continued. Puncture done and 20 c.c. of fluid withdrawn containing 6,000 leucocytes and 212 diplococci to the cu. mm. Injected serum, 30 c.c. Blood: 10,800 leucocytes.

May 15: Been doing well. Restless, pulse irregular. No apparent cause for elevation of temperature.

May 18: Kernig's sign gone. Neck a little rigid.

May 25: Practically well, though still in hospital.

CASE 11.—*Patient.*—Annie B., aged 11, entered Cook County Hospital May 11, 1908. Service of Dr. I. A. Abt.

History.—Patient was taken ill suddenly about 2 a. m., May 8, with pain in back of head and neck, which continued to increase in severity, with rising temperature till about 7 a. m., when she became semi-delirious. She continued in this condition until she was brought in to the hospital at noon, May 11.

Examination.—Child well developed and well nourished. Semi-conscious, head markedly retracted, body and limbs rigid. Face flushed, respiration rapid and irregular. Herpes on lips. Pupils unequal, both responded sluggishly to light. Tongue badly coated, breath foul. Semi-purulent discharge from nose. A few petechial-like spots on front and upper part of chest. Few râles over lower lobes of lungs posteriorly, both sides. Heart, rapid but irregular. Abdomen rigid, otherwise negative. Extremities all rigid; thighs flexed on abdomen. Kernig's sign present on both sides; reflexes absent. Child very sick.

May 11: (5 p. m.) Lumbar puncture done and 25 c.c. of turbid fluid withdrawn containing many leucocytes and a few extracellular diplococci. Injected 30 c.c. of serum. Blood: 18,000 leucocytes.

May 12: About the same at 4 p. m., lumbar puncture was done and 30 c.c. of turbid fluid withdrawn showing 80,000 leucocytes to the cu. mm. and 9,000 diplococci (3,000 extra- and 6,000 intra-cellular). Injected 30 c.c. of serum. More quiet after injection and rational by 8 p. m. Blood: 29,800 leucocytes.

May 13: Brighter mentally, but still rigid and pulse irregular. Puncture done and 30 c.c. fluid withdrawn less turbid showing 11,400 leucocytes and 855 diplococci (570 extra- and 285 intra-cellular).

May 14: Much brighter; playing with the other children, though the head was still retracted and she was generally rigid. Blood: 15,200 leucocytes.

May 16: Continued to improve. Leucocytes 17,800. Cause?

May 18: Seemed perfectly well; no rigidity; Kernig's sign gone. Leucocytes, 25,000. Cause?

May 24: Smear from vagina showed a diplococcus resembling the gonoccoccus, probably causing the leucocytosis (15,000 to-day). Still under observation.

Observations have been made, in these cases, on the general condition, on the temperature, on the number of leucocytes in the circulating blood, and on the spinal fluid.

GENERAL CONDITION.

As a rule, the patients were more comfortable after a puncture and injection, though in one or two of the cases this did not take place for several hours after the puncture. The immediate effect of this procedure seemed to stir up the patient. None of the punctures were done under an anesthetic, but I believe that there would be considerable saving of wear and tear in certain patients if they were given an anesthetic, for example, those not very toxic, but in a fairly conscious condition.

The first sign of permanent improvement noticed in at least 5 of the patients was a clearing up of the mental condition. They became perfectly rational after an in-

jection (not always the first one), were more quiet, while the rigidities were still very marked. It was a curious sight to see the patient lying in bed with head strongly retracted, yet with no expression of pain; quiet, looking about and interested in the ward doings.

THE TEMPERATURE.

The temperature has shown a decided tendency to drop steadily from the beginning of treatment, at least in those cases running a short course. This is especially notable in Case 6. This was not so pronounced in the more protracted cases, for example in Case 7, the course of the patient's temperature was not steadily downward, yet even here we see a decided tendency to remit after individual injections. The more prolonged course, with a sharp exacerbation, was undoubtedly due to the fact that he did not come under treatment till late in the disease—the twenty-first day. Also he was the first patient in whom I used the serum and we were possibly somewhat timid in our dosage. I believe we should have given him the full doses from the start. The two subcutaneous injections, by the way, seemed to produce as quieting an effect as did the intradural ones.

THE LEUCOCYTE CURVE.

The effect of the serum on the total leucocyte count was striking and uniform. There was almost invariably a drop after the first injection, sometimes to a marked degree, e. g., in Case 6, from 19,000 to 13,000 within 24 hours after the first injection; Case 5, from 22,000 to 17,000; Case 10, from 23,000 to 14,000. In Case 11, a very severe one, the first injection failed to produce any effect on the general condition, and the disease apparently continued to advance, for we see in the first 24 hours a jump in the leucocyte count from 18,000 to 29,000. Then the second injection evidently began to produce its effect, as was seen by the brighter mental condition of the patient and a considerable drop in the leucocyte count, from 29,000 to 15,000.

I am unable to account for the continued leucocytosis in Case 4. It was not accompanied with a high temperature, nor lack of improvement in general condition. The patient had, however, considerable tenderness and some dulness in the right iliac region and it is possible he had some slight trouble with his appendix. Everything eventually cleared up. In Case 8 the drop from 20,000 to 9,000, with a steady advance of the disease to a fatal issue, was due presumably to lack of resisting power on the part of the patient and is comparable to the similar phenomenon observed in fatal cases of lobar pneumonia.

THE EFFECT ON THE SPINAL FLUID.

It being particularly desirable to have information as to the effect of the serum directly on the seat of the disease, special attempts have been made to study the spinal fluid. The color has been noted in all cases, the number of leucocytes and organisms present, in 6 cases. The fluid has, of course, been turbid at the first puncture, in one or two instances clearing up at the subsequent punctures, in others not.

The number of leucocytes to the cu. mm. has been counted as in the blood. They have ranged from 2,400 to 80,000 in the first puncture, and from 80 to 7,000 in a final puncture. The last puncture done generally showed a decided drop in the number of cells. The count in Case 7 is of special interest, showing a decided increase over that noted in the previous puncture, from 1,200 to 3,800, coincidently with an increase of all other symptoms and signs, temperature, total leucocytes, etc.

The leucocytes were, of course, largely of the polymorphonuclear variety. The proportion has been noted in only one case (Case 8), in which it showed 95 per cent. of polymorphonuclears and 5 per cent. of mononuclears.

The number of organisms to the cu. mm. in the spinal fluid has been estimated roughly by counting both leucocytes and diplococci in several fields, noting the proportion and then calculating the latter from the leucocyte count. Thus in Case 10 there were 24,000 leucocytes to the cu. mm. and about one diplococcus to every ten cells, making approximately 2,400 organisms to each cu. mm. They also decreased with the progress of the disease.

SIGNIFICANCE OF THE RESULTS.

The number of cases reported in this paper is, of course, small, and taken by themselves would be of no significance. Taken with the cases already reported by Flexner and his other investigators, the results of this treatment of meningococcic meningitis are most remarkable. As one watches the behavior of these patients after one, two or three injections of this serum, he is impressed with the astonishing change which comes over them, the clearing mentality, the unsuffering expression of countenance, the evident comfort, even with a still retracted head and rigid muscles, and he is filled with an optimism as to the ultimate result which perhaps is not yet justified.

Enough has already been done by the serum, however, to warrant its use on a wide scale, and it is not too strong a statement to make that, given a case suspected to be meningitis, it is our duty to do a lumbar puncture and, if we get a cloudy fluid, to inject the serum at once and repeat it if bacteriologic examination prove the case to be one of the meningococcic variety.

I wish to thank Dr. Flexner for the opportunity of using the serum, and also the various physicians who have allowed me to study the effects of the serum on their patients. My thanks, also, are due to all the internes at the various hospitals for their cordial and interested help in the laboratory investigations of cases. Their assistance has been much appreciated.

439 North State Street.

OBSERVATIONS ON THE THYROID AND THE PARATHYROIDS.*

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With our forebears, anatomy was the handmaiden of surgery; pathology its judge or jury. Modern aggressive surgery, the veritable *sectio in vivo*, demands of the anatomist a closer study of the viscera and ever and anon puts new problems before the physiologist.

The enormous amount of anatomic, embryologic, physiologic, chemical and animal experimental work on the thyroids and the parathyroids, growing out of the recognition of definite groups of postoperative symptoms, has shed much light on, and aroused much interest in, the functions of these important structures. I may not venture, because of the necessarily limited time

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

alloted to this paper, to give even a cursory epitome of modern research work, but may attempt to state the conclusions which, after a fairly complete review of the work done by hosts of experimenters and observers, and my own limited part therein, appear to me to logically present the present status of the subject.

EXPERIMENTERS NOT UNANIMOUS.

It is but fair to state that some observers and experimenters of note are not in accord with the majority of workers and the conclusions currently accepted. Vincent and Jolly say that neither the thyroids nor the parathyroids are to be considered as organs essential to life. Rats and guinea-pigs do not seem to suffer from the extirpation of the parathyroids; monkeys show only transient symptoms; dogs, cats, foxes and prairie wolves frequently suffer and die. On the other hand, badgers (purely carnivorous animals) are not affected by the operation. When parathyroidectomy proves fatal it is probably due to severe injury done to the thyroid. The thyroid and the parathyroids are to be looked on as a single physiologic apparatus, the two kinds of tissue being intimately associated embryologically and working together physiologically. When the thyroid is removed the parathyroids appear capable of functionally replacing it to a certain extent and their histologic structure changes accordingly.

Blum says the thyroid is no secretory gland, but a detoxicating organ, which by the removal of toxic material from the circulation by intraglandular detoxication exercises a protective power on the central nervous system. The thyroid has especially the power of splitting off iodin. The iodin stored in the thyroid never leaves the boundaries of that organ. Blum can not subscribe to the prevalent view that the parathyroids play a separate and distinct rôle. He accepts the dictum of Kishi, who says morbus basedowii can not be the result of hypersecretion of the thyroid, since the thyroid normally produces no secretion. The assumption of thyroid insufficiency alone can justify the foregoing observation. Basedow's disease must be treated by a diet free from meat. Kishi claims that his therapeutic results are as good as those obtained by surgical measures and, being without danger, are to be preferred. According to his view, the operation which reduces the thyroid mass is to be abandoned.

VIEWS GENERALLY ACCEPTED.

The large majority of writers hold views opposed to the foregoing. The views entertained at present are that the thyroid and parathyroids differ embryologically, histologically, anatomically and functionally. The removal of all parathyroids in man and in many animals is followed by tetany and death; the removal of the thyroid by chronic nutritive disturbances which make up the picture of cachexia strumipriva, eventually ending in death. Erdheim's experiments on rats for the demonstration of the consequences of the destruction of the parathyroids led him to assert that not the loss of thyroid substance but the destruction of the parathyroids is followed by tetany, and he furthermore was able to prove that in three cases of strumectomy, followed by tetany, the parathyroids were wanting or had been destroyed. McCallum in his experiments on dogs found tetany to follow the removal of the parathyroids, and so did a host of noted observers. Death from complete parathyroidectomy may be deferred for a time by feeding with beef parathyroids, and acute tetany entirely prevented, as demonstrated by Halsted, McCallum, Beebe and Rogers. Feeding with thyroid extracts or iodin-containing albumins, iodothyrin and similar preparations will overcome many symptoms of cachexia strumipriva and prolong life. After the removal of the thyroid gland the parathyroids never change structurally, never get to be like, never resemble thyroid tissue and never assume its functions. The removal of both is followed by death, the chronic symptoms perhaps predominating.

ANATOMY AND PHYSIOLOGY OF THE PARATHYROIDS.

The knowledge of the anatomy of the parathyroids and their arterial supply has by the labors of Halsted, Evans, McCallum and others become quite exact. On a few points the observations differ slightly. First as to the number of parathyroids in man; four is the usual number; there may be fewer and occasionally one more. Verebely found four parathyroids in 108 out of 138 autopsies. Thompson and Harris in 250 routine autopsies in the St. Louis City Hospital found four parathyroids in 90 per cent. of the cases. They also found in their experimental work that the symptoms resulting from slow deprivation of functionating parathyroid tissue differ materially from those following extirpation of the glands. The slow deprivation of functioning parathyroids was produced by as complete devascularization as possible. The animal (in their cases the dog) dies eventually; but instead of the acute tetanic death which follows excision, with slow destruction of the glandules, the animal loses in weight and strength, disturbances of a trophic character ensue, and finally a comatose condition ends the scene without tetany.

These observations are not quite in accord with the presentation of the subject in the classical article on "The Parathyroid Glandules, Their Blood Supply and Their Preservation in Operation on the Thyroid Gland," by Halsted, an article which has been closely studied and much quoted. Halsted distinctly warns against interference with the parathyroid arteries, whether coming directly, as they usually do, from the inferior thyroids or from the channel. Ernst Hagenbach, in his valuable contribution on "The Function of the Thyroids and the Parathyroids," finds that injury or destruction of the parathyroid arteries of one side is followed by a passing tetany, then cachexia and death by cachexia; destruction of the arteries of both sides results in death in acute tetany; removal of the thyroid and of the inner parathyroids, saving the external ones produces no tetany, but the development of cachexia; secondary removal of the external parathyroids causes death from tetany.

RELATIONSHIP OF THE DUCTLESS GLANDS.

Recent studies of the ductless glands or organs producing an internal secretion, hinting at the intimate interdependence of the thyroid, the parathyroids, the adrenals, the glandular part of the pituitary body, the liver and the pancreas, seem to show that the physiologic rhythm of the body demands the integrity of all. A pathologic condition of one of them calls for an attempt at a *restitutio ad integrum*—unless some other organ vicariously assumes its function — an attempt, aiming in fact at a therapeutic ideal, not reached by the method which removes or destroys.

Take, for an illustration, exophthalmic goiter. The thyroid has been proven to be a gland deserving to be ranked as a vital organ. The best results have been obtained, we all believe, by the removal of one-half or

three-fifths or, with the saving of the parathyroids and their arterial supply, of nearly the whole of the gland. Injury to the parathyroids has been for a time atoned for by feeding with beef parathyroids, with Beebe-Rogers serum, or the transplantation of parathyroid tissue into the spleen, culminating in the beautiful and logical method of Halsted. Similarly, removal of too much of the thyroid has been counterbalanced by the administration of thyroid extracts or iodin-containing albumins.

NONOPERATIVE TREATMENT.

Measures other than operative may favorably influence some symptoms or the condition. A patient of mine, who was in a most miserable condition with a pulse of 190, delirium cordis, exophthalmos, loss of weight, and muscular tremors improved for a time by the application of ice to the neck and the region of the heart, by absolute rest, a diet free of meat, and belladonna administered for three weeks. The patient gained in weight, the exophthalmos improved, the pulse came down to 100. The patient assumed that he was almost cured. He returned to the hospital after two weeks in almost as bad a condition as before. A repetition of the above outlined treatment improved him sufficiently to prompt me to obtain a permanent result by an operation described later. We have not yet found the non-surgical treatment which gives satisfactory results, although Blum in a rather recent article asserts the opposite.

Professor Guthrie of Washington University, St. Louis, in whose experimental work on the vascular system I have been much interested, included in his experiments work on the thyroid of the dog, and a number of specimens show the results of the reversal of the circulation and the ligation of the arteries and veins. In ligating the veins of the thyroid in dogs he showed that at first, for perhaps three days, there results an edematous swelling of the gland, followed soon by reduction to the normal and finally a small reduction in size and a slightly increased firmness. The dogs then invariably gained in weight. With these proven facts as a basis, the following suggested itself to me. In exophthalmic goiter we have an enlarged gland, an enormous increase in vascularity and capillary dilatation, a multiplication of the thyroid cells with abnormal activity, the presence of a great number of indifferent or vagrant cells and a peculiar change of the thyroid gland cells—the whole condition resembling a reactive process without physiologic termination.

PASSIVE HYPEREMIA BY SURGICAL OPERATION.

The plan then adopted, tried on several dogs, one a goitrous one, gave the results expected. I then tried it on the patient before mentioned. The plan rests on the following proposition: Ligation of the thyroid veins produces dilatation of the capillaries with increased pressure, transudation of blood plasma through the endothelial capillary tubes into the extravascular spaces until the pressure of the plasma in the intercellular spaces equals the pressure in the capillaries. We might count on the escape of some extravascular fluid by the lymphatics. The effect of the transudate at first is a mechanical one; there is a crowding of the cells, an interference with oxygen admission, the retention of carbonic acid, an asphyxia. In this condition the vagrant or indifferent cells, the least fit to survive, suffer a degenerative process and die, while the limitation of arterial afflux brings the gland cells from hyperactivity to the normal. As part of the process the connective tissue stroma would increase and, in the later contraction, lessen the size of the gland—in other words, restore it to a condition near the normal. The result of the experiments on the dog distinctly demonstrates the success of the procedure, which in reality consists in the production of a Bier's passive hyperemia.

At a future time I shall publish the complete history of the case of my patient with observations during recovery and the final late effect. Objections to my suggestion may be made. At present I see one, surely not one to be regarded by the experienced operator; the infinitely greater difficulty of ligating the veins than the arteries. In my case I ligated both inferior thyroid and both superior thyroid veins. I am in doubt whether, on the right, I secured the trunk or only a large branch of the superior thyroid vein.

465 North Taylor Avenue.

DISCUSSION.

DR. C. H. MAYO, Rochester, Minn., said that the study of the thyroid gland could not be dissociated from that of the parathyroid, thymus, pancreas and adrenal, and, probably, the pineal gland also. The thyroid had the most beautiful circulation in the body, with the exception of the brain; it would be impossible to destroy it except by deliberate act. At one time the thyroid undoubtedly delivered its secretions into the alimentary canal through a duct, and that was why the feeding of thyroid does so much good in some cases. Dr. Mayo said that Dr. MacCarty had made a classification comprising practically all goiters other than malignant; fetal thyroid; fetal activity; then, again, the normal gland activity; retention secretions; and then the degenerative conditions. So much had been written concerning the parathyroids that the surgeon, in any operation in the neck, feared that he might injure a parathyroid. Dr. Mayo said that in operating on over seven hundred goiters he had not had a single case of tetany. In 1896, in three cases, he had removed one parathyroid on the back of the gland. He did not know how many he might have taken out before that, but no symptoms were manifested in the cases where he knew that he had cut a parathyroid. Therefore, Dr. Mayo thought that the functions of these glands must be associated with other conditions. He did not believe that it was quite as serious to remove one of these parathyroids in the exophthalmic type of goiter as it would be in the old simple colloid goiter or diffuse adenoma. Dr. Mayo thought that the operation of ligation of the veins, producing passive hyperemia, which Dr. Tuholske had brought forth, was in the right line in certain cases. Operation was the rule in these cases of hyperthyroidism—and that was the term which should be applied to all of these cases.

Dr. Mayo said that the history of these cases and the classification of the disease from symptoms had been made without any foundation in fact. One spoke of Graves' disease, first described in 1835, of Basedow's disease, first described in 1840, or Parry's disease, first described in 1825. Two symptoms, exophthalmos and goiter, had been taken as of prime significance, whereas 80 per cent. of cases would present either one or both symptoms, and 20 per cent. might show neither the enlarged thyroid nor the exophthalmos. Proir to the appearance of these symptoms, Dr. Mayo said, these patients would be treated for heart disease. The nerve specialist would prescribe rest. The enterologist would call the case one of gastritis and enteritis, and order white meat of chicken and no oysters for the patient. Another treatment which Dr. Mayo said had been advocated was the injection of antitoxin. One might almost read the entire pharmacopeia to cover the history of the treatment of hyperthyroidism. If a patient with heart disease had protruding eyes, Dr. Mayo said, the case was diagnosed as exophthalmic goiter.

He said that ligation should be done in three types of cases. It should first be recognized that 25 per cent. of patients would recover with, without, or in spite of treatment. In very mild cases, which did not justify the removal of half the thyroid, a simple operation of ligating one or both superior thyroid arteries and veins should be done. Another type was so dangerous that there might be a degenerated heart muscle,

possibly brown atrophy with soft spleen, with nephritis albumin in urine, and fatty degeneration of liver. The physician might be afraid to operate. If under cocain anesthesia, ligation of first one artery and then the other, with the accompanying vein were done. Dr. Mayo said, the patient would improve. In another type of cases the right and middle lobe would perhaps be extirpated and the patient would improve; if there was insufficient improvement, or a relapse, it should not be considered a mistake to have operated on that thyroid. Ligation of the superior thyroid artery and vein on the other side would have a remarkably good effect in such cases.

Dr. Mayo said that last January he and his colleagues had gone over the last 200 cases of exophthalmic goiter and sent out 190 letters. (Ten patients, 5 per cent., had died from operation.) They had received 167 answers to these letters. Seventy per cent. of the patients were cured, and 89 per cent. had either been cured or greatly improved. A few more cases brought the percentage up to 94 per cent. cured, greatly improved or somewhat improved. Some were not improved at all. In some cases, Dr. Mayo said, surgery could do anything but many of these cases were treated so long medically that the burden of surgical mortality was of necessity much greater than it should be; it ought to be called medical and surgical.

DR. A. J. OCHSNER, Chicago, said that there was no operation in the entire field of surgery in which the importance of knowing when and how was greater than in this particular operation for exophthalmic goiter. The surgeon did well to operate when the patient's condition was at a standstill or, in general, reasonably good, so that resistance to the slight shock of operation might be counted on. When there was no resistance left, the results of operation would be exceedingly bad. Dr. Ochsner mentioned another class of advanced cases in which the other organs of the body still were sufficiently good, so that if the patient's temporary condition were improved the immediate, as well as the late result, would be good because the absorption of the thyroid secretion would be stopped. Recovery, however, would be slow. Dr. Ochsner said that much had been learned from Kocher, Mayo and others; namely, that in the operation itself the patient could be protected, first, by reducing the trauma; second, by preventing shock, especially in cases which have gone too long before operation, and by performing preliminary operations in these cases, such as Dr. Tuholske and Dr. Kocher had recommended, or by following the method of Charles Mayo, of dividing the operation into two stages. There was no operation in surgery that had improved so much during the last ten years, both as regards the choice of time and the number of operation as this one.

CASES OF VERY GENERALIZED POLYNEURITIS.*

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The purpose of this paper is to present two cases of polyneuritis, which, so far as I know, present features which are unusual and appear to me to be of much interest. In the first case the patient had the added distinction that he had two attacks, in some respects alike, at intervals of thirteen years.

CASE 1.—*History.*—A. R., aged 13, of a healthy family, was seen Jan. 3, 1891. He gave a history of having ached all over for four weeks, of his face being drawn to the left side for three weeks, and of pains in his face and limbs.

Examination.—When I saw him he still suffered sufficiently to disturb his night's rest. He had double facial paralysis. The upper and lower branches of the seventh nerves were affected, but the paralysis was not complete, as the eyes could be feebly closed. The electrical reaction of the facial muscles were those of degeneration—loss of faradic contractility, "tardy" reaction to the galvanic current, with the normal formula reversed. The patient also had an unsteady gait. The muscles of the legs were weak but not distinctly paretic. They responded to faradic electricity, but only to a rather strong current. The knee jerks could not be elicited. The urine was normal; sensation, special senses, disks, pupils, etc., were normal. The patient gradually improved.

March 28: It was noted that the facial paralysis had disappeared on the left side and nearly so on the right.

May 25: A note stated that the patient was well, but the knee jerks could not be elicited.

The patient now remained in good health for 13 years, though in 1896 he was examined merely for the purpose of learning the state of the knee jerks, and they were found to be normal.

Subsequent Examination.—I was called to see him again Oct. 20, 1904, on this occasion in consultation with Dr. Stephen E. Cone. Some ten days prior to this date he began to suffer with aching in his back and legs and, about a week later, with weakness in the legs and face. When I saw him he had a good pulse and normal temperature, but a heavily coated tongue, no appetite, and could not sleep on account of his general distress. He now had complete double paralysis, the muscles presenting the reaction of degeneration. He was weak on his feet so that he could scarcely walk. The knee jerks and Achilles tendon reflexes could not be elicited. The plantar reflexes were present, though slight, and normal, that is flexion. There were no other objective symptoms. For some time the subjective symptoms were, so to speak, the predominant ones. His suffering, aching, pains, etc., was very great, so that with hypodermic injections of morphin and hypnotics he scarcely obtained any relief, and very little sleep. But at the end of about three weeks the subjective symptoms left him, and thenceforth he slept without the aid of drugs. In the meantime his paralysis had steadily increased, reaching its acme about the time the subjective symptoms ceased. A few days after my first visit he was altogether unable to walk.

November 8: Patient could flex and extend toes fairly well; plantar flexion of ankles was quite weak, dorsal flexion nil, extension of knees nil, flexion and adduction quite weak, abduction stronger; hips weak but stronger than the knees. The right leg was a little stronger than the left. The muscles responded to the faradic and galvanic current, but it required a very strong current to produce contraction, especially of the quadriceps. (At a later period the leg muscles most profoundly paralyzed failed to respond to either faradism or galvanism, a fairly strong current having been applied.) Sensation in legs was very slightly blunted. The patient spoke of the bladder and rectum being weak, though there was no retention nor incontinence. This was complained of for but a short time. The patient began slowly to improve, but about December 20 he suddenly got worse, the paralysis increasing beyond what it had been before, and for a short time there were also subjective symptoms.

Jan. 8, 1905: Patient called attention to the fact that the left deltoid was slightly paretic, but this condition was of short duration. It was noted on this date that for several weeks some power of voluntary movement had been observed on the right side of the face, and for several days on the left side, and that he furrowed the brow quite well.

May 28: Two weeks previous to this date he began walking with the assistance of two helpers and at this date he could walk with only the assistance of a cane, but it was with the "steppage" gait, especially noticeable on the left side, the right leg being the stronger. The larger number of muscles had considerable strength. The most decided weakness was in the dorsal flexors of the left toes, extension of toe big toe being almost nil. There was some sense of numbness in the left foot. The appearance of the face was not far from the normal.

August 22: Patient could walk up and down stairs unassisted. Chief weakness was in dorsal extensors, ankles and toes. Knee jerks, Achilles tendon reflexes and plantar reflexes could not be elicited.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

September 13: Gait was still improving. Still slight impairment of tactile sensation of left big and little toe. Face still felt stiff and looked unnatural when he laughed. He could not expose upper teeth—paresis of upper lip. When he ate, tears frequently overflowed.

Jan. 15, 1906: Not much change in the face, but the facial muscles responded to faradism. It is well to note that the electrical reactions appeared to be normal, while voluntary control of the muscles had not yet become fully restored. He had an elastic, natural gait, but said he could not run.

February 5: Knee jerks were present, but no Achilles, nor plantar reflexes.

August 3: Knee jerks and Achilles reflexes were present, slightly more marked on the right side. No plantar reflex. Only noticeable defect was that the upper lip and dorsal extensors of toes and ankles had not regained their full strength.

I will again briefly refer to the more striking features of this second attack. The progress for several weeks was steadily from bad to worse, almost as steady as the movement of the clock, and the same was true of the improvement after it had once definitely begun. It was about a year after the onset of his illness that the patient again began to attend his business, and in about one and one-half years he was practically well. It is worthy of note that such extensive and profound paralysis should have left practically no traces.

The paralysis of the legs began in the muscles that move the large joints and only finally affected the toes, and it was in the latter that the paralysis was of longer duration. This is not the history of ordinary multiple neuritis, that is, the paralysis usually begins in the distal parts of the extremities. It is a rule, too, that the muscles first affected are last to recover.

The condition of the reflexes is noteworthy. At the very first examination the knee jerks and Achilles tendon reflexes were abolished, but a normal plantar reflex was present. The latter soon disappeared. It was more than one and a quarter years before the knee jerks returned, and some months longer before the Achilles tendon reflex was found. Even then the reflexes were probably not altogether normal, for they were more marked on the right side—the side which had been less affected—than in the left. The plantar reflex was absent in August, 1906.

The distribution of the paralysis also was unusual. While in multiple neuritis the four extremities are commonly affected, in this case, though the paralysis was extensive and profound, the upper extremities practically escaped. The double facial paralysis, though observed in cases of multiple neuritis, is rare. That there should have been so little anesthesia with such extensive motor paralysis is also uncommon.

With all its unusual features there is no room for doubt of the correctness of the diagnosis. The extent, profoundness and duration of the paralysis, the electrical reactions and full recovery all establish that. The most striking fact is that there should have been two such attacks in the same individual. There was no known cause for either attack, and they were assumed to be due to the grip.

CASE 2.—*History.*—Dr. T., aged 29, good family history, good habits, always had good health, never had venereal disease, was an athlete at college. Had been married three years and had a healthy child, one year of age. For six months before his illness he had much worry and mental strain on account of illness in his family and other troubles. The month before he became ill he was very hard worked, and lost much sleep. One warm night, perspiring and exhausted, he threw himself on his bed without clothes or cover, fell asleep, and awoke the next morning chilled through, the temperature having fallen decidedly, and the cold wind blowing on him. He had had some severe pains in the back of his head for about a week prior to this time, possibly due to want of sleep, but he attributed his illness to this chilling, for his aching began immediately thereafter. I saw him July 5, 1907, in consultation with Dr. Ambrose Johnston, three or four days after his symptoms began. He suffered much with aching in his limbs and trunk, and was, therefore, moving constantly from side to side. So great was his suffering that he had just received a hypodermic injection of morphin. For a couple of days he had noticed that he was getting gradually weaker in his legs, and when seen observed that his hands and arms were getting weak. He also had paresthesia, numb, cold feelings, in the distal parts of the upper and lower extremities.

Examination.—On examination his pulse and temperature were found to be normal. Excepting that he was weak in his feet, there was no manifest paresis. All qualities of sensation, tactile, stereognostic, etc., appeared to be normal. Knee jerks and Achilles tendon reflexes could not be elicited. Pupillary reflexes were normal. Plantar reflexes were normal. The patient's condition now steadily grew worse. Four or five days after above date there was manifest paresis of shoulders, hips and knees.

July 12: Patient could not move the arms at the shoulders, nor the legs at the hips or knees, and there was considerable paresis of hands and feet. There was bilateral facial paresis. He had very little power in the muscles of the mouth and cheeks or in the orbicular palpebrarum, but he could furrow his brow well. His voice often became husky so that it was difficult to understand him, and he complained of accumulation of mucus in the throat, which it was difficult to remove. He required strong cathartics, and, at times there was weakness of the sphincter ani. He complained bitterly of paresthesia of the hands and feet. There was tenderness over the sciatics, also in other parts. He could not bear to have the legs extended, because, he said, it seemed to stretch the sciatics and it gave him extreme pain in them. There was still no manifest anesthesia. The paralyzed muscles responded to the faradic current. Plantar reflexes were normal. The patient had been closely watching his symptoms from the beginning. Probably partly from this cause, partly from his suffering, he was in an extremely emotional state. His condition continued to get worse, the power in the muscles of the extremities and face became less, his voice feebler, the accumulations in the throat more annoying and more difficult to remove, swallowing finally impossible (at times, the fluid in his throat would escape from his nose), so that from July 18 he was fed altogether through the stomach tube. About this time for several days he had some fever, highest 102 F. when his pulse was 140. At this time his physician believed, on account of his manner of breathing and all, that he was about to die. Soon after that his condition began to ameliorate somewhat, probably due in part to his receiving sufficient food, which had been taken in very small quantity prior to this time.

July 25: There was almost absolute paralysis of the four extremities, no abdominal, cremasteric or plantar reflexes. Strength of abdominal muscles seemed normal. Some impairment of sensation. Astereognosis in both hands. Patient had no stools without the aid of drugs and the nurse had to use his fingers. There were variations in the facial paralysis, one day eyes was somewhat restricted, especially in an outward direction, and the patient spoke of occasional double vision.

August 5: Decided anesthesia noted in hands and feet, and lower parts of arms and legs, and astereognosis. There was more marked paresis of the left abducens. There was very little power manifest in the left hand and elbow and right fingers. There were variations in the facail paralysis, one day one side of the face would be more paralyzed, the next day the other; the one day he could not furrow the brow, the next day he could furrow it. Accumulations in the throat had ceased, and patient could swallow saliva better, but still used the stomach tube.

August 15: Could swallow well; discarded stomach tube a week previously. Strength of upper extremities had in-

creased, some power of movement in all the joints, minimal power of movement observed in feet. Facial paralysis less.

August 26: Fair strength in muscles of face and upper extremities. In lower extremities some power manifested in muscles above the knees, none below. Still anesthesia of feet and hands. Movements of eyes better, but still somewhat limited.

September 7: Movement of eyes and muscles of face normal. Hands stronger. Some power manifested in all the muscles of lower extremities. Tactile sensation everywhere was fairly good. But there was some astereognosis; impairment of muscular sense and ataxia in the hands.

October 2: Strength of muscles and all qualities of sensation appreciably normal, excepting some weakness of the anterior tibial and peroneal groups of muscles, and slight impairment of sensation over the little toes. Knee jerks and Achilles tendon reflexes absent. Plantar reflexes could not be properly examined because of great sensitiveness of the soles of the feet.

November 21: Had been at work again for the past three weeks. Discarded a cane one week previously, walked well, and could run and jump, but not well. Some patellar tendon reflex present—occasional response. No Achilles tendon reflex. No plantar reflex. He still had numb tingling sensation on the dorsum of the feet, and occasionally in the fingers. There was also hyperesthesia of the feet, so that he could scarcely touch them without distress, and he could barely stoop to take off his shoes because it caused a pain in thighs and hips. His greatest complaint was that it took so long to fall asleep at night.

I examined him some six months later. His reflexes were normal, and he had been feeling quite well for several months.

This case can scarcely be considered otherwise than as one of multiple neuritis. Its manner of development, marked sensory symptoms and complete recovery after the extensive paralysis presents a clinical picture altogether unlike that of poliomyelitis anterior. In the recent epidemic of poliomyelitis in New York cases were reported which were very different from the ordinary disease, cases with very pronounced and widespread paralysis, presenting cerebral as well as spinal symptoms, in which there was speedy and complete recovery. But these cases appeared to be altogether in young children, and in addition to the fact that no epidemic cases appeared in Cincinnati the history in this case differed in many essentials from those just referred to.

Apart from the very widespread paralysis this case is certainly striking in many ways. The degree of suffering was excessive, even for a case of multiple neuritis. It was the earliest symptom and remained to a degree after other symptoms were practically gone. The sensory paralysis, the anesthesia, considering its extent and degree, was very late in its appearance. It, as well as some of the pains and motor paralysis, was rather sudden in its disappearance. The patient had always been a healthy man and came from a healthy family, but the manifestations last mentioned as well as some others made it appear that there might be no inconsiderable hysteric element in the case.

The electrical tests of the paralyzed muscles were not altogether satisfactory. His suffering and sensitiveness were such that usually no satisfactory examination could be made, but on several occasions some of the paralyzed muscles failed to respond to a strong faradic current. The comparatively early recovery of the muscles makes it probable that there had been no great changes in the electrical reactions.

As in the first case reported, the pronounced paralysis was first observed at the large joints and not in the distal parts of the extremities, as usually occurs in multiple neuritis.

DISCUSSION.

HENRY W. FREUDENTHAL, of New York City: I would like to ask whether iodide of potassium was used in either of the cases reported, and whether there was a history of syphilis and what the reactions were?

DR. ZENNER said in reply to the question that there was no iodid given in the cases, and no syphilis found. There were the usual manifestations of reaction of degeneration in the muscles of the face while in the lower extremities a very strong current failed to produce any contraction in some of the muscles in the first case. In the second case the examination for electric reactions was unsatisfactory on account of the pain which it produced. At times, with the current strong, no reaction whatever was obtainable. But inasmuch as there was complete recovery in a comparatively short time, the chances were that there were no considerable changes in electric reactions.

PATHOLOGY IN DENTAL COLLEGES.*

L. G. NOEL, M.D.
NASHVILLE, TENN.

Believing the course of study in pathology in dental schools defective in many respects and that it has not occupied the high place in the curriculum of study that its importance deserves, I conceived the idea of addressing a letter of inquiry to the various dental colleges in America. This was done with a view to comparing the methods pursued in this study, and with the hope of ultimately arriving at some improvement in teaching, perhaps causing the adoption of a uniform course of study. The body of the letter follows:

Wishing to acquaint myself with the methods employed in the leading dental schools in teaching dental pathology, and to ascertain to what extent students are taught the general principles of pathology in these colleges, I address you this letter, begging that you will kindly reply at your earliest convenience, setting forth as briefly as possible the methods pursued, in your school, in teaching this branch, the text-books employed, the extent of your requirements in examination, etc.

Believing there is need of improvement in the teaching of this important branch in nearly all of our dental schools, I am seeking by a comparison of methods to arrive at some correct conclusions about needed reforms. After stating briefly what you are doing in this teaching, I will thank you to point out also the improvements you conceive to be needed.

Forty-three letters brought twenty-five replies, a result showing, I think, a lively interest in the subject, especially when we consider that these inquiries were made during the month of January at the busiest part of the term and that the answer entailed considerable painstaking labor.

It would be instructive to reproduce all these letters here, especially as they come from the most eminent writers and teachers in our profession, but to do this would take up too much time and space, and I must try, therefore, to give briefly the salient points gleaned from this correspondence.

In several instances I wrote a second letter to draw out my correspondent more fully, to call attention to a question he had omitted to answer, or to ask another. Many of my correspondents sent carefully prepared syllabi of the course of study in pathology in their respective schools and these will be very useful in formulating a uniform course. It is apparent from these letters that very little laboratory work in biology, bacteriology and pathohistology is being done in our colleges, for the simple reason that we lack time for any

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

satisfactory pursuit of such work under the three years course. Several of our more important colleges were planning to construct laboratories, and to commence such a course when the brief period of the four years course was so suddenly terminated. Several of our schools are doing some work in pathohistology in connection with the studies in biology, bacteriology and histology, but this work is necessarily defective for want of time. There can be no question of the value of this method of teaching pathology. The student should pursue here the same methods of study as in anatomy, chemistry and histology, a practical training in laboratory processes.

Two letters from Dr. G. V. Black and two from Dr. James Truman show how these eminent teachers have labored under the difficulties caused by lack of time to give the training each felt so important for the life work of the dentist. Dr. Black in his reply to my second letter says:

DR. BLACK'S REPLY.

I have read your letter of February 13 with some care, and will say that in bacteriology, which is part of my own subject, one of my assistants, Professor Willard, doing the work, three hours a week are given to laboratory work during the whole year. There is quite a little done in the histologic laboratory in the pathology of the teeth, but the laboratory work in general pathology, and also in physiology, is not up to the standard that I should like to have. This is not because we have not room, or anything of that kind, but simply because we have not the time in our course to do that work. When it was arranged that we should have a four years' course, we were building, and I had planned for a physiologic laboratory and a pathologic laboratory for general pathology; but, as we did not get the time—the four years—we have been compelled to leave them out. I hope some of these days to be able to do this work; it ought to be done in every dental school.

Replying to a second letter of inquiry on this subject Dr. James Truman first calls my attention to his "Annual Fasciculus," which he sent me, in which is outlined the pathologic work in his school; then he says:

DR. TRUMAN'S REPLY.

You ask me for my opinion of "How to make the best of this work in the three years allotted us?" Each school naturally deems its plan the best with the limited time given. I must repeat that dentistry, and all branches included in that name, can not be taught in three years. At the best the student acquires a superficial idea of the work, and must depend on experience to fill up the lost spaces. When our department came under my care in 1883 I tried to bring to bear the experience of twenty years in another school. The guides were not many, and most of these were antagonistic to my own views in regard to teaching. This period was that which fell on dentistry between the old skilled mechanical metal workers and the unskilled rubber operators. In these years dentistry lost much, in fact, the working of the noble metals was practically a lost art. I felt that this should not be permitted, and that it must be taught, as the time would come when that skill would be needed. To accomplish this, I organized technical branches in the mechanics and operative in the freshman year. Having no guides, for these were not, I think, generally established, the beginning was somewhat crude, teachers had to be trained. Since then this original idea has been expanded until the first-year men now must go through the whole process from the making of metal work, etc.; and in the operative, from the beginning, an art student having charge of the modeling. The freshmen, as a rule, do not come to the living patient during the year.

The course thus subdivided between the three years, for it is extended in part over all, works as well as could be expected, and now that gold is so much used for crowns and bridges, as well as the base for artificial dentures, I feel that my earlier efforts in this direction have had full fruition. I do not wish to be understood as claiming any special original credit for the technic work; this seems to come as a spontaneous need, perhaps not as I saw fit to start it.

The announcement sent you will explain the amount of time given to each branch, and I think it must be evident that the association of faculties made the mistake of its life when it killed the four years' course. The undergraduates reach the third year with much of mechanical, as well as theoretical knowledge, but with the operative largely theoretical. With some, I need not say to you, this may be sufficient, but the large majority have knowledge without skill. This is true of every school in the United States, in my opinion. In order to secure something of every study every one must be limited to a certain number of hours, and the test of knowledge must be examinations. If any set of teachers have been able to reduce this to an exact science I am not acquainted with them. To make the three years available, the subjects must be cut to fit the time. I am utterly opposed to the method, whether in our own school or any other. I will not live to see five years in undergraduate life, but I sincerely hope that the time will come when a dentist will be required to take as many years to study this complex profession as a bricklayer takes to lay brick. I do not know that I have answered your query, but perhaps you can glean something from it.

Surely we shall glean much from the statements of this earnest and conscientious teacher, who thus so frankly states the difficulties under which he has labored. It is probable that Dr. Truman's letter suggests these questions: What has the gold work in dental college to do with the study of pathology? Why does not Dr. Truman speak to the subject and answer briefly the query above quoted? Why do I reproduce so much of a letter that is apparently not germane to the subject? I will try to answer these questions and make my position plain.

Dr. Truman has for years been engaged in the practice of dentistry, in teaching dentistry, and in contributing to the literature of dentistry. He has not lived for selfish ends, but has endeavored most conscientiously to impart to his students the things needful to fit them for the practice of dental and oral surgery. Dentistry is a peculiar profession. It is unlike any of the other specialties of medicine, in that it is a texture made up of a warp of scientific facts with a woof of mechanical skill and handicraft. You can not separate the woof from the warp and maintain the integrity of the fabric. That Dr. Truman views the subject in this light is evidenced in this second letter from which I have quoted. It is difficult to bring the old practitioner to see the question in any other light, and especially is this true of the faithful teacher who knows what is required of him, and has personally felt the responsibilities the student must meet when he leaves the college and goes out to practice.

Feeling the importance of this practical training, as well as the need of the scientific knowledge as a foundation, Dr. Truman has endeavored to show how he has battled with these difficulties as best he could, trying to impart the most fundamental truths of each study in order that the student may continue his studies after graduation.

THE CAUSES FOR CRITICISM.

Dental colleges are often severely criticised by members of the profession who are not engaged in teaching, and who are therefore not familiar with the many and various difficulties that must be encountered. The arraignment is especially severe that so much time is devoted to mere mechanical training, to the operatory and prosthetic laboratory to the neglect of more important fundamental scientific studies.

This complaint, it must be admitted, is just; it is an evil that should be remedied. We all admit that, but we do not yet see our way to correct it. It is not a new complaint, for the trouble commenced in our two oldest dental schools shortly after they were founded. I remember seeing, years ago, somewhere in our literature as coming from Dr. James Taylor, this same complaint: that it was always difficult to get the students to leave the practical work of the operatory and laboratory, and attend regularly the lectures on the five fundamental scientific studies. Thus, it has, on account of the texture of our cloth, if I may be allowed to return to my simile, been ever with us from the beginning down to the present day, the same difficulty, except that it is growing.

We have lengthened the course of study but one year since the founding of the earliest dental schools, and this increase of time is utterly out of proportion to the growth of scientific knowledge, to the addition of biologic, histologic and bacteriologic lore, not to mention other things, that must be taught.

It is important now, as it was in the days of Chapin A. Harris and James Taylor, for the dental student to acquire manual skill. He comes to us for that, and when we send him forth from our colleges we give him a diploma which states to all the world that he is competent to practice the science and art of dentistry.

Why need we fall into the error of taking a one-sided view of this subject? We must not neglect those scientific studies which are the foundation of our art. Science is the foundation of all art, for painting, sculpture, music, architecture, etc. The painter must be an anatomist if he would portray the human form, the sculptor must be an anatomist if he would produce in marble the divine effigy.

SCIENCE OF FIRST IMPORTANCE.

Then if science is the foundation for our art it must necessarily take first place. If the time is too short for the needed study at school, and aught must be left unfinished, it must not be the foundation on which our superstructure is to rest; this must be securely laid that the building may be placed thereon, not hurriedly and defectively, but by gradual and careful accretion, until it stands complete, skilfully wrought, a thing of beauty.

Thus we dream of our work as teachers, but of how many educations commenced in our classes do we see even the foundations fairly completed? As teachers we must, for lack of time, as has been pointed out by Drs. Black and Truman, try to teach something of all the essential fundamental sciences, though giving but a superficial and unsatisfactory training in each. We must try to economize the student's time, working together to this end, eliminating from our requirements all useless technic work and substituting in its place such scientific training as we deem more important.

In the light of the recent great and brilliant contributions to our knowledge of pathology by such men as the late Dr. W. D. Miller, and our own beloved Dr. Talbot, I think I need not urge that our students should be taught as much pathology as possible while they are in the formative undergraduate state.

Whatever must be slighted in the preparation of our students for practice, it must not be these great studies on which the ability to recognize disease must depend. How can we hope for the application of intelligent therapeutic measures, or the inauguration of effective prophylactic treatment, without a knowledge of etiologic and pathologic conditions?

We must all admit that in many of our schools much time is consumed in technic work, which if not useless, is at least of minor importance when compared to the study of pathology. A dentist may be an operator of the rarest skill, but if without pathologic training he will be a failure as a practitioner, because he is without diagnostic discernment, without guides for the application of his skill. The infirmary is the best place to teach the application of the principles of pathology, and the student should be admitted early to the operatory for the acquisition of this training. I shall not attempt to say how early students should be admitted, that question must be decided by each school according to its own peculiar conditions, but it is clear to me that students should enter the operatory during the junior year.

Here we must show the student how to recognize the beginnings of systemic disease by its manifestations in the oral cavity, teach him how to arrive at correct conclusions and how to apply the various prophylactic and therapeutic measures available to the practitioner.

I must confess that at the time of this writing my thoughts in these subjects may be influenced and on some points at issue intensified somewhat by recent criticisms on dental education that have appeared in our journals. This is why I am endeavoring to show the peculiar features of dentistry as a profession even at the risk of tedious prolixity.

AN UNFAIR COMPARISON.

Our critics are comparing our methods with those pursued in medical schools, drawing therefrom conclusions unfavorable to us. The conditions to be met, the pursuits to be followed are very different. We must prepare our students to take up and practice a branch of surgery that is so exacting in its demands for manual skill that our state boards, many of them, require the candidate for a license to practice to perform certain operations in the presence of the examining board, which work is graded by the board and becomes an important factor in fixing his standard and deciding his fate.

Are such methods pursued by medical boards? Is the candidate for license to practice medicine and surgery required to amputate a limb, to ligate an artery, to operate for appendicitis, or to meet a crisis of any kind in medical practice? No, he may be asked how he would do these things, but is never actually required to perform the operations.

The state boards of examiners are made up of men many of whom obtain their appointments not because of mental and professional qualification for the place, but merely through political preferment, and regardless of their fitness for this work. Many of them are so ignorant that they could not themselves answer correctly one-half the questions they put to the candidates who come before them, yet these are the very men who are most severe in their criticism of dental colleges.

THE PROBLEM TO BE MET.

We must prepare our students to encounter these state boards, and when they fail before them we are censured for the failure. This explains why so much time is devoted to the mechanical and the manual, often to the neglect of the mental culture of the dental student.

We must prepare the student not only to pass the state board, but to commence practice, to compete with the old practitioner to earn his livelihood. We owe to him all this, it is what he comes to us for and what we have promised him. It is in most instances what he sadly needs, for seldom has he a large fund of available cash on hand at graduation.

We find ourselves as teachers navigating a stormy sea of criticism betwixt Scylla and Charybdis. Some of our critics are clamoring for all science, others seem to be for all technic and infirmary practice. We know that these things are to each other as the right hand is to the eye; that one cannot say to the other, "I have no need of thee." Fair science is the handmaid of art; science may be said to be the eye itself, but art is the right hand.

Then let us proclaim a truce to carping criticism and look the field over reasoning calmly together for betterment. The first step toward a remedy is clear and it is our duty as teachers to take it without delay. We must endeavor to bring the National Association of College Faculties to return to the four years' course, and if we fail in this effort, then I am in favor of making an appeal to all schools of dentistry of good standing in the United States, whose faculties are willing to lay aside all selfish motives and work for a high standard, to withdraw from the association and form a new organization which will adopt a longer course of study and inaugurate such other reform measures as we may deem necessary.

Some points brought out in my correspondence I hope to have further elucidated in the discussion of the subject. These relate to the preparation of the student for the taking up of this study, the order of this preparatory work, the time when the study of pathology shall actually commence and the order in which it shall be pursued.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago: I agree that a four or five years' course is necessary; yet improvements can be made and should be made at the beginning of the next course. President Eliot of Harvard recently stated that there is no necessity of the student's taking four years to do the work that could be done in three. There are men who graduate from Harvard in three years. In the dental school considerable obsolete material, now used for padding, could be cut out of lectures. Considerable time is wasted by students for want of system and opportunity to fill all the hours. Students entering dental schools should be required to graduate from high schools in which are taught physics, chemistry and biology, the last including zoology, which also includes evolution. Dentistry can not be taught to-day without these studies.

Medical schools devote three or four years to all the other specialties of medicine while the dental school spends the entire three years on one specialty. Subjects of the most vital importance to the dentist are omitted or only hinted at and of these he is entirely ignorant when he begins practice. First and most important of these is oral hygiene. Cleanliness should be the religion of the institution in which the student receives his instruction. This method naturally requires that the teacher and building be kept as cleanly as the surgeon and his operating-room. The first lesson taught the student in the clinic before operating on patients should be to place his own mouth in an hygienic condition as well as the patient's.

Most teachers discourse on diseases of the gums and alveolar process as pyorrhea alveolaris. It is an impossibility to teach students the pathology of these tissues under such a name. After the student learns what the term means he is all at sea when the different stages of inflammation are met with. He must always look for pus and if no pus is present, there can be no "itis." I do not care whether the disease is called interstitial gingivitis or alveolitis; both are good terms. The term pyorrhea alveolaris should be used when pus is present. Few teachers on orthodontia give an intelligent course on etiology of deformities of the jaws and irregularities of the teeth. Another great mistake of some teachers is the invention of a new pathology to fit some particular mechanical hobby to advertise themselves. What is needed in dental schools is a better educated class of teachers to give a broader course.

DR. M. H. FLETCHER, Cincinnati: We are not all blessed with patients who can or will pay for services rendered by a physician or highly skilled stomatologist to treat diseases of the mouth. What are these people to do? Let us put ourselves in the position of some poor fellow who has no money to pay except for extraction and for a set of store teeth when the natural teeth are all gone. I have for years been an advocate of advertising dental offices, provided they have men to do this kind of work properly. Were we to have none but the highly educated practitioners, the probabilities are that many people would have to go without treatment and become toothless; or else men capable of more successful careers than those promised here, would necessarily deteriorate into that kind of practice at a very small price. On the other hand, there is a large clientele requiring what most of us can not give—treatment from the most highly skilled men that can be had, trained in anatomy, histology, pathology and diagnosis. I am thoroughly in accord with Dr. Talbot as to the failure in most of our dental colleges to teach pathology adequately in preparation for the practice of stomatology. Nomenclature is a point which has caused me a great deal of chagrin at times. Medical men say, for example, "You do not have in the text-books any description of the disease known as pyorrhea alveolaris." I would advocate every method that can be adopted to increase the knowledge of our students in the line of pathology and the treatment of disease.

DR. M. L. RHEIN, New York: I agree with Dr. Talbot as to the necessity for a generally better education, both of the teacher and student. Until we reach the same educational plane that practitioners in general medicine must attain, it is absurd for dentists generally to speak of dentistry as being on an equal footing with general medicine.

The subject of the teaching of pathology is one on which I feel very strongly. It is almost impossible to teach pathology of a part of the body until the student has not only had proper instruction in, but has shown by his examinations a proper understanding of, general pathology.

DR. N. S. HOFF, Ann Arbor, Mich.: The teaching of the subject of pathology is difficult, and I do not think it all depends on the extent of the student's preliminary education, neither does it depend altogether on the education of the teacher. Sometimes a student who is not what we call well educated gains a good understanding of pathology. On the other hand, a student with the very best recommendations, may disappoint us by turning out to be an inferior student. I hesitate to criticize the attitude that the dental colleges have taken towards the matter of preliminary education.

VIDA A. LATHAM, Chicago: Pathology comes a little too early in the present course of instruction. Pathology presupposes and accepts a knowledge of everything gone before; it takes in physiology, anatomy, general medicine, general pathology, surgery, etc. When we get it in the first and second years, as we do in many schools, it is difficult for a teacher of pathology to get the student to understand and make the references to all classes of work. A teacher gives a few points to learn by heart, and as a rule the student is not required to learn anything outside of that. I think the system of teaching in Michigan University some years ago, which required the student to look up branch or essay subjects, was one of the best incentives to a student to obtain a broader education in dentistry.

The literature of pathology, written by medical men as a rule, unfortunately, does not apply to conditions of the mouth particularly, as the tumors and pathologic conditions of the mucous membrane, the salivary glands, lymphatics of the mouth, etc., are not sufficiently known. I doubt if any one

knows whether or not we have lymphatics of the teeth. Why do not we make investigations along that line? The illustrations that are seen in the dental museums are usually of the gross anatomy. Where is the work done that would be acceptable, like Professor Shambaugh's work on the internal anatomy of the ear, the lymph spaces? We have no such work. The work of Dr. Broomell, of Philadelpia, is noted as of the best, though he is only a beginner in the subject, and he is perhaps the only man that has done the work in this country. But Dr. Broomell gets little credit for it—where do you hear him quoted? Where are other men who have tried to give us some dental pathology, dental bacteriology, dental histology? With the exception of Dr. Miller, not one has had an incentive to carry the work through. It is persecution to have to work night and day to earn bread and butter that research may be carried on! For that reason scientific dentistry and scientific medicine are the losers. I know laboratory men most eminent in this country and abroad. Have most of them ever received any credit or scientific standing for what they have done? The universities seldom recognize their work; the profession as a whole does not recognize it or seems to think anything but mechanics needed; and we are brought back to the same question: Why should we have professional dentistry taught by ordinary medical men? I think that this Section should make an effort to encourage the carrying on of research and secure laboratory facilities. The Section on Surgery invites men from abroad as guests. Why should not we? Why do we not invite Zigmundy, von Ebner, Zuckerkandl, Walkhoff and Gysi to attend our meetings? Then our meetings would be more largely attended. What we need is scientific dentistry and pathology.

DR. F. B. MOOREHEAD, Chicago: Three years is altogether too short a time in which to teach pathology. The didactic work given in two brief terms in dental colleges is altogether inadequate so far as the marvelous study of pathology is concerned. That course is not now long enough in the medical curriculum, and it will never be long enough in the dental school. I myself have spent several years in the study of pathology since graduation, and I am not yet inside the portals of the study of pathology.

In my opinion the subject of pathology ought not to be left to the department of pathology alone; other departments should be competent to teach it also. Students should be clinically taught practical pathology in the oral surgery clinic by a man who knows pathology. In that clinic every piece of tissue removed from the human mouth should be subjected by the students of the senior class to microscopic examination and study so that they may get a practical application. No matter how perfect one's preparation, no one can properly teach pathology didactically. It is not a didactic, but purely a laboratory subject. Therefore, we must have laboratories for the teaching of pathology, which presupposes that the student has done the required amount of work in histology. I have shown sections of tissue to senior students who were unable to determine whether a certain section was heart muscle—striated muscle—or connective tissue. A student who does not know normal histology can not intelligently study pathology. He must know normal tissue before he can study abnormal tissue. The student must first have a thorough course in histology, and then must be taught pathology practically. After this the student will be in a position to study the subject intelligently. The most we can hope for, is to prepare the student, in the three years he is with us, to take up the subject as a postgraduate study.

DR. G. V. I. BROWN, Milwaukee: Every one who teaches oral pathology will, I think, agree that there are four difficulties that must be met. First, insufficient time. I was an ardent advocate of the four-year course, and am glad to hear the general sentiment expressed in favor of it to-day. The second difficulty, and a very serious one, is that there is no literature on which any one who undertakes to give a modern course in pathology of the mouth, teeth, jaws, etc., can depend. To frame a course of lectures such as might satisfy one's own idea of what they ought to be if they are to be beneficial to the students, requires a great deal of general work. More books and miscellaneous literature must be consulted than it is really fair to ask students to undertake to go over in following that course of lectures. I meet this difficulty in my work at the University of Iowa as well as I can by preparing at the end of each year a long list of questions covering as far as possible those principles which I consider to be the most essential. I try to prepare them in such manner that the student can find the answers in no one work. This, in a general way, requires him to do more or less collateral reading in order to prepare answers, and it is on those questions that examination in the subject is based. The third and worst difficulty is that there is a lack of proper sentiment behind the study.

The fourth difficulty troubles me the most, and that is this teaching of applied pathology. In the University of Iowa, with which I am connected, the students have a thorough course in histology followed by laboratory and didactic work in general pathology before they come to me. I have put my work in two divisions: First, what I call the dental division or oral pathology, in which I teach only pathology of diseases of the teeth and surrounding tissues, the treatment of which does not belong to my course; and, second, that part of oral pathology properly belonging to the course in oral surgery, and of which I teach the treatment. I take up the consideration of the pathology in the following order: Etiology, pathology, symptoms, diagnosis, prognosis, and treatment of each disease, thus making the subject practical. The weakest point in all our teaching is due to the variance among those who should have opinions on the subject, more in accord.

DR. L. G. NOEL: I am indebted to those teachers who prepared letters giving their views in the matter of teaching pathology. I gathered from these letters that pathology is being taught in most of our dental schools, not from one chair alone, but from several, so that there is no escape from the subject. If a man is studious he can not help absorbing a large amount of pathologic knowledge while being instructed in the bacteriologic and histologic departments, and he is also being thoroughly taught pathology from the chair of surgery in nearly all dental schools as well as in the clinical course. It is impossible for the student to have too much pathologic teaching. I believe that all dental students should be graduates in medicine before the dental school. We should then have all the branches that the student had studied in medical school, applied to his specialty of dentistry.

DEMENTIA PRÆCOX.

A COMPOSITE HISTORY OF TWO HUNDRED CASES WITH BLOOD FINDINGS IN FIFTY CASES.

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Several articles devoted to the etiology of dementia præcox have appeared within the last year in English and American journals; still, additions and contributions to knowledge on this point are much to be desired. It is with the hope of adding, even though slightly, to the knowledge of this condition that we present the llowing clinical findings:

On examining the histories of 200 cases, in 65 per cent. we were able to find some mental or nervous defect in the family. The greater majority of these patients were apparently normal in body and mentally well endowed; in fact, a great many showed unusual ability to acquire school knowledge until the pubescent period was reached. At this time many complained of nervousness and loss of ambition; others were shy, seclusive and showed vasomotor irritability; again others developed exaggerated sexual feelings and practiced masturbation.

These symptoms usually passed almost unnoticed by the other members of the family for a year or two; then the majority of these patients became restless, com-

plained of dull frontal headache, vivid disagreeable dreams, anorexia, digestive disturbances and inability to obtain restful sleep. If seen by a physician at this time they were usually found to have exaggerated deep and superficial reflexes, vasomotor disturbances (such as cold, clammy hands, cyanotic feet, dermatographia), anemia and loss of weight. To the prodromal symptoms just enumerated were now added the first real signs of mental aberration or the true onset of the psychosis. The first psychic field to show definite perversions was the emotional, and this was demonstrated in the change of feeling toward home, relatives and friends, and by periods of weeping, silly laughter and phobias. The next field to suffer included the various special senses. The patients heard unnatural sounds and voices, saw queer objects and visions, smelled disagreeable odors, their food tasted unnatural, sexual feelings were heightened or perverted, and frequently at night they experienced sensations as if suspended in space or lowered into some deep cavern. The patients as a rule at this stage of the psychosis tried to explain to themselves the cause of these unusual sensations, and as their judgment was defective, delusional ideas were the result. Delusions of persecution appeared first, and on them were engrafted those of position, grandeur, importance, religion, poisoning and also those of a sexual nature. At this point in the progress of the mental disease the attitude, manner and will became affected. Under the influence of hallucinations and delusions the patients usually became irritable, suspicious and egotistic. Lack of ambition and inability to perform simple tasks were quite noticeable at this time. Impulsive acts were often seen, some patients setting fire to their homes or destroying property while under the influence of these imperative ideas. A tendency to wander and travel was observed in a great many of these cases. As Kraepelin states, there is no doubt that among tramps a large percentage suffers from an arrested form of this disease.

The various psychic anomalies just enumerated were found to be more or less common to all cases of dementia præcox studied, but at this point in the progress of the mental disease certain psychic fields showed greater anomalies than others. For instance, in one group of cases the volitional field was found to be the one principally affected, the other symptoms being more or less in the background. In another group the emotional field was the one that suffered most, and in still another group the judgment showed the greatest weakness. For the above reasons the various authorities on psychiatry have divided dementia præcox into the catatonic, hebephrenic and paranoid forms. The three above-mentioned forms had, in the cases which we studied, a great many symptoms in common, but the degree to which certain psychic fields were invaded by the disease made these types stand out almost as distinct types of disease.

The most prominent symptoms displayed by the catatonic patients were those pertaining to anomalies of the volition or will, such as stupor with mutism, negativism, and more or less constant hypermuscular tension or excitement, during which the patients were destructive, untidy and noisy by shouting, and demonstrated stereotypy of speech and movements. While in the stuporous state the patients required a great deal of attention, were exceedingly difficult to care for, and usually needed to be fed artificially. The change from the stuporous to the excited state was frequently found to occur and usually took place spontaneously. One patient who had been stuporous for over three months suddenly became excited, got out of bed, forced his face through a large pane of glass and succeeded in dissecting the greater part of the flesh from the facial bones. After the wounds were dressed he again became stuporous and is in that condition at the present time, over two years since the above attack. The periods of excitement in these cases were usually of short duration, lasting as a rule from the few seconds consumed by one impulsive act to three or four days. We found a great many of these patients in a mixed state, that is, in a condition of stupor and mutism with rhythmic movements and some constraint. Delusions, illusions and hallucinations in these cases, though present as a rule, were not prominent. Some authorities claim that all of the volitional anomalies are prompted by delusional ideas, but we were unable to prove this except in a few cases. The prognosis was found to be far better in this particular form than in the other two forms of the disease. Twenty-two per cent. were able to return to their homes; of these 10 per cent. had recovered and 12 per cent. were slightly demented. A few of the slightly demented patients were readmitted to the institution later.

In the hebephrenic form the emotional field presented the principal characteristic anomalies. The ones most frequently found were general apathy, unprovoked silly laughter, lack of interest shown on meeting friends or relatives, frequent blushing, weeping, shyness, seclusiveness and preoccupied states. As in the catatonic form, delusions and hallucinations were usually present, but of minor importance when compared with the emotional phenomena. The mental decline in these cases was uniformly progressive, with a few remissions and a small percentage of recoveries. Most authorities claim that the hebephrenic form of dementia præcox goes to make up about 75 per cent. of the tramps and vagabonds.

The paranoid form, on the other hand, showed marked irregularities in the field of judgment. The most striking features were the delusional ideas and the formation of more or less fixed delusions. The delusions in reference to persecution were the first to appear, on which were engrafted those of grandeur, position, power, religion and occasionally those of an erotic nature. This type of the disease usually affected the patients later in life than the other two forms. On account of these delusional ideas being partly based on facts, patients of this type often came to the asylum for the first time as late as the thirty-fifth year of age, after having served several short terms in prison or having caused their relatives an enormous amount of trouble and anxiety. Authorities on criminology and psychiatry have found that a large percentage of eccentrics, anarchists and criminals is made up of sufferers from this form of dementia præcox. On account of their apparently more or less logical ideas the civil courts often find them guilty of some criminal offense or let them go free, exempt from the guardianship of an institution for the insane, until the psychosis is well advanced. No remissions or recoveries occurred in the few cases of this form included in this paper.

Tables 1 and 2 contain the blood findings in twenty-five cases of catatonic stupor and twenty-five cases of hebephrenia. Nine of the catatonic cases showed some slight mental impairment, but the entire hebephrenic group is composed of fairly recent cases. Wright's blood stain was used for the differential count and Erlanger's sphygmomanometer for the blood pressure.

TABLE 1.—CATATONIA.

Case No.	Hem. Per cent.	Erythrocytes.	Leucocytes.	Neutroph. Per cent.	Small M. Per cent.	Large M. Per cent.	Eosin. Per cent.	Trans. Per cent.	Basoph. Per cent.	B. Pressure. S. P.	D. P.
1	70	4,496,000	14,340	83.1	11.7	4.7	.5	0.	0.	165	110
2	70	2,712,000	13,326	31.3	21.1	10.3	5.8	1.2	.3	140	98
3	90	4,888,000	12,564	79.8	13.1	5.2	1.1	.6	.2	152	86
4	70	3,656,000	11,548	71.7	14.1	10.2	3.4	.4	.2	156	102
5	60	3,792,000	11,422	81.	7.2	10.8	0.	.8	.0	138	70
6	80	4,288,000	11,422	63.7	13.6	16.2	1.1	4.8	.6	154	92
7	70	4,216,000	11,042	78.4	12.5	8.2	.7	.2	.0	132	88
8	80	4,488,000	10,660	60.2	28.3	6.3	4.8	.2	.2	180	120
9	75	3,824,000	10,408	80.5	10.6	6.5	.7	1.	.7	132	88
10	65	5,048,000	10,280	66.9	15.	13.3	3.9	.4	.5	162	110
11	70	3,200,000	10,026	66.3	22.2	8.6	1.5	.9	.5	142	88
12	65	3,712,000	10,026	65.9	18.0	11.4	3.7	.5	.5	130	78
13	75	4,640,000	9,898	54.6	32.5	5.9	2.1	3.2	1.7	148	102
14	80	3,848,000	9,010	60.2	25.6	8.0	4.8	.9	.5	150	98
15	90	5,512,000	8,884	57.6	20.8	9.0	11.5	0.	1.1	140	80
16	65	4,128,000	8,248	62.2	19.9	12.2	2.9	2.3	.5	150	106
17	80	4,320,000	7,994	65.3	21.1	10.6	1.7	.3	1.	167	103
18	75	3,952,000	7,868	67.2	20.6	5.2	6.3	.0	.7	130	68
19	70	3,080,000	7,356	60.9	25.3	7.7	3.6	2.1	.4	132	80
20	70	3,832,000	7,356	49.4	34.2	8.3	2.9	3.3	1.9	110	80
21	90	5,368,000	7,230	50.5	29.2	15.5	2.5	1.2	1.1	128	78
22	70	3,384,000	6,996	73.4	13.3	10.3	1.2	1.3	.5	135	88
23	70	3,144,000	6,592	61.4	22.0	10.1	6.0	.3	.2	160	94
24	90	3,912,000	6,340	59.3	24.7	10.8	4.2	.8	.2	158	92
25	90	4,344,000	6,848	50.5	30.2	13.8	1.5	3.	1.	140	90

TABLE 2.—HEBEPHRENIA.

Case No.	Hem. Per cent.	Erythrocytes.	Leucocytes.	Neutroph. Per cent.	Small M. Per cent.	Large M. Per cent.	Eosin. Per cent.	Trans. Per cent.	Basoph. Per cent.	B. Pressure. S. P.	D. P.
26	80	4,680,000	17,894	60.2	24.	8.5	5.	1.4	.9	172	104
27	80	4,872,000	17,006	74.6	19.7	2.	3.13	.2	.2	150	76
28	80	4,712,000	15,230	69.9	21.2	4.7	3.6	.4	.2	165	100
29	75	3,504,000	13,706	64.5	24.4	6.5	3.6	.5	.5	144	92
30	90	4,448,000	13,072	70.5	11.6	13.7	3.5	.5	.2	134	78
31	80	4,792,000	11,548	63.7	20.	10.9	1.9	2.6	.9	128	88
32	75	3,712,000	11,168	52.3	30.9	9.5	3.5	3.8	.0	139	92
33	70	4,760,000	10,660	61.7	14.6	6.6	15.4	.7	1.	136	96
34	70	3,872,000	10,660	63.7	17.6	14.0	2.	2.2	.5	156	84
35	80	3,840,000	10,534	60.5	31.4	5.1	2.	.0	1.	130	78
36	70	3,760,000	10,026	65.5	21.6	4.2	6.	2.2	.5	128	78
37	90	5,072,000	9,898	64.5	22.9	9.4	1.	1.4	.8	160	92
38	70	4,336,000	9,138	68.6	18.9	9.9	2.2	.0	.4	148	82
39	55	3,904,000	9,010	61.1	21.4	6.5	8.9	2.1	.0	132	88
40	90	4,640,000	9,010	55.5	34.3	6.7	2.0	.7	.8	138	88
41	70	4,696,000	8,248	59.3	23.3	13.2	2.0	1.6	.6	128	82
42	80	5,840,000	8,122	61.5	26.7	7.1	2.4	1.7	.6	130	74
43	75	4,064,000	7,742	68.6	18.7	9.7	1.8	.7	.5	150	98
44	80	4,232,000	7,356	72.5	13.5	5.3	6.5	1.8	.4	110	62
45	65	3,600,000	7,356	52.9	36.4	5.0	3.5	1.9	.3	126	80
46	70	4,560,000	7,356	50.	30.	8.6	.9	.5	.0	130	74
47	70	4,416,000	6,996	61.4	26.3	10.3	.8	.8	.4	128	86
48	70	4,944,000	6,592	57.5	24.4	13.2	1.3	3.1	.5	128	78
49	55	3,624,000	5,692	62.5	18.2	9.6	6.2	3.0	.5	128	82
50	85	4,592,000	5,300	57.8	23.7	12.9	4.0	.8	.8	146	72

Patient 11 was operated on in January of this year and four-fifths of the right lobe of the thyroid gland was removed. For six months previous to the operation he had been mute, rigid, tube-fed and cared for in bed. Immediately following the operation he became mentally clear and talked freely. This hopeful condition lasted five days, when the patient's mind became clouded and convulsive movements were seen to involve the angles of the mouth and the extremities. On the seventh day the patient had four tetanic convulsions lasting from three to four minutes each, during which the trunk and extremities were in a state of extreme flexion. We were of the opinion that the parathyroid glands of the right side had been either removed or injured during the operation and the tetanic convulsions were the result. Five-grain tablets of thyroid extract were administered every four hours. After the first dose, the patient had no more convulsions, and when four tablets had been given, the drug was discontinued. During the following six weeks the patient was cared for in bed, being very destructive, delusional and negativistic. At the end of this time he began to improve and was allowed to get up and dress. Improvement has been gradual since, and at present the patient is mentally clear, takes considerable interest in his surroundings and occupies his time by reading and assisting the attendants with the ward work. Delusions and hallucinations are absent and the patient appears to be in a normal state, except that his movements as well as his thought processes are slow. Since the operation he has gained 23 pounds and his blood-findings are practically normal, aside from a mild leucocytosis and a low erythrocyte count.

After the tabulated blood examinations were made in cases 23 and 33, thyreoidectin was administered in five-grain doses every eighth hour for one week. A second blood count was made at the end of this period and the following changes noted: In case 23, the eosinophile percentage increased from 6 to 14.2 and the total leucocyte count from 6,592 to 8,884, while the neutrophile percentage decreased from 61.4 to 49.6. In case 33, the eosinophile percentage increased from 15.4 to 25.1 and the total leucocyte count from 10,660 to 14,340, while the neutrophile percentage decreased from 61.7 to 45.6.

Bazzicalupo's theory that the eosinophiles and neutrophiles that have undergone presenile changes is well illustrated in the table. Those cases that showed an unusually high eosinophile count also showed a correspondingly low neutrophile percentage.

The urine of forty-four out of the fifty cases tabulated showed an excess of indican.

While wo do not feel justified in making deductions from the above findings, yet we consider the prevailing mild leucocytosis and the increase in the percentage of the eosinophile and large mononuclear cells with a low neutrophile count of considerable interest. The above facts just enumerated in reference to the blood and urine point strongly toward a physical basis for this disease, possibly an autointoxication of intestinal or glandular origin.

Pneumococcus Nephritis.—Ferrand diagnosed acute nephritis in a child of 6, previously healthy. The child died in three days, and the trouble proved to be a pneumococcus infection with multiple localizations, most severe in the kidneys. The lesions in the pleuræ and lungs were subordinate. Papillon had a similar case in his service, the signs of the acute nephritis dominating the clinical picture although there was pneumonia of the right lung, evidently the primary affection. The meninges were also involved. The case was still under observation when reported in the *Bulletin de la Société de Pédiatrie*, April, 1908.

PSYCHOTHERAPY.*

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The idea I desire to present is, that, as far as psychic influences are to be curative, they must be applied with that end solely in view and not with a reservation that admits greater development of a neurosis, so that the observer may make an interesting psychic analysis, may keenly dissect and examine in cool, critical fashion the abnormal working of the mind machinery as the physiologist examines the beating heart of the dog—good for science but bad for the dog. It goes without saying that we should apply our very best efforts to comprehend the innermost recesses of the patient's consciousness, but if in our warm pursuit of psychologic data we lose sight of our ultimate aim—the welfare of the patient—so much the better perhaps for scientific study, so much the worse for the patient. There is a very close comparison between this tendency in neurology and the overzealousness in surgery, where a desire to build up statistics, to do rare and unusual operations, to witness in perhaps a purely scientific spirit the progress of disease processes may contribute ultimately to the welfare of mankind at large, but works hardship on the individual sufferers. The analogy will apply probably in all fields of the healing art, but certainly not least in the application to psychic work.

In spite of the effort to reduce psychotherapy to a scientific basis must we not after all confess that it is an art and must be applied as an individual and personal quality? Can it anywhere be claimed that the art may be mastered equally by men of equal ability any more than all men of equal intelligence and industry might paint equally acceptable pictures or write literary productions? I think not. Moreover, the great bulk of the work in this field must be generously interspersed with kindliness and genuine human sympathy, with a spirit of friendship and comradeship, if it is to give the best results. The good old family doctor of the days now disappearing, who acted as general family counselor in moral as well as physical vicissitudes, has very successfully filled the rôle of psychotherapist. His very presence brought about favorable results that cold scientific analysis would utterly fail to attain.

Very recently one of my best friends in neurology, whose scientific work is well and most favorably known, was reporting a study of a hysteric situation. He was asked what suggestive work had been done toward removal of symptoms. He very naively replied, "None. In fact, it was the spirit of the game not to disturb the development of hysteric symptoms, but the hope existed that more profound manifestations might arise, that more might be learned of their nature." It may prove disconcerting in the end to find that a dislodgment of well-intrenched ideas is entirely beyond his suggestive powers.

It does not seem far-fetched to compare the development of psychic deviations to those of a purely physical nature. The relative ease of removal is certainly present in the beginning. So we may not privilege ourselves to study the growth of a neurosis coolly; we must apply our best efforts to its cure and store away whatever we may learn of scientific value, the acquisition of which does not interfere at all with the best interests of the sufferer.

Another phase of this subject and one which gives rise to wide differences of opinion is how far may we use placebos and other means of presumably pure suggestive nature like the static battery, as a quick and easy way of removing troublesome symptoms which may arise in the progress of any neurosis.

There is good reason for believing this rarely justifiable, and certainly the tendency is toward less careful and painstaking efforts to get the patient to realize the mental origin and method of management of his troubles. One might compare this to the use of the coal tar products for the relief of headache. A symptom is relieved, but the underlying cause is in no wise removed or affected except possibly for the worse. Most psychics are indefatigable in their search for medicinal remedies and come to offices ladened with thirty or forty prescriptions, about half of which call for one or another of the bromid salts. It may require an hour or more of valuable time and all our persuasive eloquence to put the truth plainly before them. We may not succeed even then, but it is none the less our duty to advise against all drugs, currents, etc., when the cause is a mental or moral one, than it is to write a prescription for quinin when the plasmodia appear in the blood.

I have had patients, with whom I had labored diligently, settle themselves rebelliously in a chair and declare they were not going to leave until they got a prescription for some medicine. They were tired trying my methods which, however successful at times, at other times failed completely to give relief. How easy to write for a cochineal mixture for such a patient to build up an elaborate expectancy and perhaps be later assured by him that it "worked like a charm." If there is a field in which psychotherapy actually cures anything, and it is the firm belief of many, if not most, neurologists that there is, there can be no excuse for weakly succumbing to this temptation to do at times what the quack does all the time, i. e., give some innocuous stuff to satisfy a desire of the patient and let Nature and hopeful expectancy do the rest.

Psychic analysis after the method of Freud and Jung certainly contributes extremely valuable knowledge to our branch of study, but it is questionable whether the material used in these experiments is not in some measure at least sacrificed to scientific enthusiasm.

After all, the largest use we find for psychotherapy, not the most urgent and indispensable but the most frequent, is in simple nervousness arising in patients who have never learned not to be governed by their emotions, whose philosophy has never been developed. When we run on to a genuine neurasthenia or psychasthenia, it takes two, three or four years to get it well, psychotherapy or none. A deep-seated hysteria we do not cure, though we fondly pride ourselves in our ability to "modify the personality." Our influence on the genuine psychoses, when we have crossed the shadowy line dividing them from simple nervousness, does not swell us with pride. It depends in a large measure on our ingenuity in devising employment, environment, and wholesome ways of living whether we succeed or not. The fascination of laboratory experiment and the easy way of the placebo may appeal to us according to our mood, but neither should be allowed to overweigh the one legitimate aim of our efforts—the cure, partial or complete, of the patient.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Clinical Notes

SUDDEN COLLAPSE FOLLOWING INJECTION OF DIPHTHERIA ANTITOXIN; RECOVERY.

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Recent reports in THE JOURNAL of fatal results following the use of antitoxin, especially the cases reported by Drs. Wiley[1] and Boone,[2] prompt me to report a very unpleasant experience with serum a few months ago. Although the patient survived, I certainly do not care to have any more experience of like character.

Dec. 15, 1907, I was called to see a boy 15 years of age. He had always been healthy in every way, until the past few days, when he thought he had taken cold, and was now complaining of his throat. Examination showed a flushed face, rapid respiration, and quick pulse, 120 per minute. He breathed through the open mouth, indicating nasal obstruction. Inspection revealed a large mass of diphtheritic membrane which almost filled the pharyngeal and postnasal spaces. I at once sent for antitoxin, and on its arrival injected, by the usual technic, a dose of 4,000 units into the subscapular region.

Immediately there was a change in the boy's countenance. A look of intense anxiety came over him, and the lips, face and neck quickly became livid in appearance. He gasped for breath, and cried out that he was smothering, and that he had a pain in his heart. Froth poured from his mouth, and he clutched with his fingers at his throat and chest. There was a peculiar death-like stare in his eyes; the pupils became widely dilated, and very soon he went into convulsions, throwing himself from one side of the bed to the other. Finally his breath seemed to leave him, and he dropped back on the bed in a state of complete collapse and unconsciousness, while the radial pulse entirely disappeared from both wrists. Death seemed imminent.

Restorative measures were promptly instituted in the form of strychnin, atropin, and nitroglycerin, hypodermically, while heat was applied to the extremities and hot coffee injected into the bowel. Dr. Frank Garcelon of Pomona was called in consultation. Stimulation was pushed to the limit, without any apparent benefit, so far as restoration of consciousness or pulse was concerned. After lying in this condition for an hour and a half with no improvement, and as the throat was filling up rapidly with the false membrane which continually threatened strangulation, it was decided to try another dose of antitoxin, and 3,000 units were injected in the submammary region. One hour later, another dose of 2,000 units was administered. In each instance strychnin 1/30 gr. was given hypodermically coincident with the antitoxin.

No immediate effect was noticeable from either of these doses, one way or the other. Respiration continued weak and rapid, while the extremities were cold and blue. The case at this time seemed hopeless. One hour later an ounce of hot saturated camphorated oil was injected into the bowel, and retained. Two hours later respiration began to improve, and a faint radial pulse could be detected, the first perceptible in six hours' time, and the patient soon regained consciousness, but was very much prostrated.

As the boy could not now swallow, alcoholic stimulants were freely given, and peroxid of hydrogen spray, full strength, was used in the nose and throat at frequent intervals. At 9 a. m., the next day, 3,000 units of antitoxin were given, and the same sized dose repeated at 1:30 and 5:30 p. m., making in all 18,000 units administered in twenty-two hours.

Improvement in pulse and respiration became more noticeable, and the symptoms much more favorable, but the membrane did not begin to slough until the fourth day. After this it was freely cast off. On the eighth day severe muscular and articular pains came on, and the characteristic eruption appeared over the whole body, accompanied with intense itching, and the eyes became bloodshot.

Absolute rest was enjoined for several weeks after all troublesome symptoms had disappeared, and strychnin was continued until the patient had regained his strength. Convalescence was rather slow, but the patient finally made a complete recovery.

The question may be asked why succeeding doses of antitoxin were given this patient after the untoward effect of the first dose. The answer is that the boy's system was so thoroughly saturated with the toxemia of the disease that recovery seemed impossible without heroic measures such as antitoxin offers. The precaution was taken to give strychnin coincident with each of the succeeding doses of antitoxin for the purpose of sustaining the flagging heart action. Whatever theory may be applied to the case, the important thing is that the boy recovered. Without vigorous and continued stimulation death would certainly have followed.

The question of the untoward effects of serum injections have attracted the attention of the profession to a considerable extent within the past few months,[3] and now the federal government, through the Marine-Hospital Service, is making extensive investigation and study of the subject with reference to this point, and it is hoped that the department will be able to throw light on a mysterious condition concerning which we are in the dark at the present time.

The difficulty is that we have no criterion by which we may be able to foresee contraindications for the use of the serum that is so universally recognized as the most potent remedy we have with which to combat the poison of diphtheria. I have used antitoxin for years, and have given it twenty-five times since that unfortunate experience five months ago, and only with good results; but in the light of the experience reported during the past few months it behooves the profession to be on guard in the use of this remedy that we have heretofore given with feelings of absolute safety.

1. THE JOURNAL A. M. A., Jan. 11, 1908, 137.
2. THE JOURNAL A. M. A., Feb. 8, 1908, 453.
3. THE JOURNAL A. M. A., March 14, 1908, 875.

A NEW METHOD FOR THE QUANTITATIVE ESTIMATION OF ALBUMIN IN URINE.*

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AND

SUZANNE STERN.
PHILADELPHIA.

Although there have been many new methods devised in past years which have simplified and enriched our laboratory equipment, there seems to have been no method suggested whereby the percentage of albumin in a given specimen of urine can be rapidly determined. The only means we possess is the Esbach albuminometer, which besides being inaccurate, possesses the added disadvantage of requiring twenty-four hours before a result can be obtained.

We have worked out a method which is extremely simple, accurate and which gives results in a few minutes. It is based on the precipitation of albumin by phos-

* A preliminary report from the private laboratory of Dr. John H. Musser.

phctungstic acid in the presence of a mineral acid. We dissolved 1 gm. of crystallized egg albumin in 100 c.c. of distilled water (Solution A). Of this we took 1 c.c. and diluted with 9 c.c. of distilled water (Solution B) so that in the 10 c.c. there was 0.01 gram of albumin; in 1 c.c., 0.001 gram, and in 0.1 c.c. 0.0001 gram. We put in a test tube 5 c.c. of the following solution:

Phosphotungstic acid	1.5 gm.
Hydrochloric acid (conc.)	5 c.c.
Alcohol 95 per cent., q. s. ad	100 c.c.

We found that if the above solution of egg albumin (Solution B) were added with a pipette graduated in 0.1 c.c. that it took 0.1 c.c. to cause a cloudy precipitate with the phosphotungstic acid; in other words, there were 0.0001 gram albumin in the 0.1 c.c. of the albumin solution.

To prove the delicacy of this we took 1 c.c. of Solution B and diluted it with 9 c.c. of distilled water so that in the 10 c.c. there was 0.001 gm. albumin, in 1 c.c., 0.0001 gm., and in 0.1 c.c. 0.00001 gm., and we found that it required exactly 1 c.c. to cause a precipitate, or 0.0001 gram albumin.

Having established the delicacy of the test we applied our method to urine. First the Heller's test was made and if much albumin was present, the urine was diluted 1 in 10, if not, undiluted urine was used. Of the phosphotungstic acid solution, 5 c.c. were put in a test tube and then with a 2 c.c. pipette graduated in tenths of a c.c. the filtered urine was added to this, shaking after the addition of each tenth, and adding urine until a whitish cloud appeared. The number of tenths of a c.c. was read off and expressed in terms of 100 c.c.

For example, if it took 1 c.c. of diluted (1 to 10) urine, there was .0001 gram albumin in .1 c.c. of undiluted urine, or in 100 c.c. there was 0.1 gram albumin, or 1 gram in 1000 c.c. On the other hand, if 0.7 c.c. diluted urine were used, then 0.07 c.c. undiluted urine equals 0.0001 gm. albumin; 7.0 c.c. equals 0.01 gm. albumin and 700 c.c. equals 1.0 gm. albumin. The following equation gives the percentage:

As 700 : 1.0 :: 100 : x or 0.142 per cent. or 1.42 per thousand.

Our findings have been controlled by the gravimetric method and the results are given below:

No. 1.—Titration method	0.06	per cent., or 0.6	pro mille
Gravimetric method	0.06	per cent., or 0.6	pro mille
No. 2.—Titration method	0.166	per cent., or 1.66	pro mille
Gravimetric method	0.1100	per cent., or 1.10	pro mille
No. 3.—Titration method	0.05	per cent., or 0.5	pro mille
Gravimetric method	0.05	per cent., or 0.5	pro mille
No. 4.—Titration method	0.33	per cent., or 3.3	pro mille
Gravimetric method	0.34	per cent., or 3.4	pro mille
No. 5.—Titration method	0.12	per cent., or 1.2	pro mille
Gravimetric method	0.10	per cent., or 1.0	pro mille
No. 6.—Titration method	0.1	per cent., or 1.0	pro mille
Gravimetric method	0.17	per cent., or 1.7	pro mille

The method, as is seen, is exact, sensitive, simple and possesses the great advantage of giving the amount of albumin in a specimen of urine in a very few minutes. Further work is being carried on to determine the errors, if any, in this procedure, and a future paper will contain our final conclusions as to the value of our method.

2035 Chestnut Street.

Children's Hospital, Hobart, Tasmania.—The committee appointed to judge the designs for the proposed children's hospital have recommended that Mr. Rudolph Koch be awarded the first prize. The design provides for 24 beds, two wards of 10 beds, one of 3, and an isolation ward containing 1 bed.

CORN OIL IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

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The medical profession is fully conversant with the fact that, in the treatment of pulmonary tuberculosis, the oils and fats take foremost rank. All tissue waste, in excess of that in health, which always takes place during the active tuberculous process, must be met by an abundance of aliment to restore the metabolic equilibrium. Our chief reliance usually is placed on the ingestion of easily assimilable and readily digestible food. As food values the fats and oils are of the most importance. If the tuberculous patient refuses to take, or does not well tolerate, fats and oils which form part of the daily diet, such as butter, yolk of eggs, bacon, etc., then recourse must be had to some animal or vegetable fat given as a medicine.

Of animal oils, that obtained from the liver of the cod fish has for years been given the preference. Of late, the use of olive oil has come greatly into favor. Both cod liver oil and olive oil are expensive, and the price of these oils is, as a rule, beyond the reach of most tuberculous patients, as most patients suffering from pulmonary tuberculosis belong to the poorer classes. This has induced me to look about for an oil or fat which possesses all the good qualities and properties of either cod liver oil or olive oil, or of any other good vegetable oil, and which is inexpensive, palpatable, easily assimilated, well borne by the stomach and does not cause nauseous eructations. My attention was directed about a year ago to an oil obtained from corn or maize and I began to recommend and prescribe it to patients who applied at the Central Free Dispensary of Chicago and who were suffering from pulmonary tuberculosis. This was to be used in lieu of either cod liver oil or olive oil. From the fact of its inexpensiveness, it being about one-fourth the price of that of any other oil or fat usually prescribed in pulmonary disease, I wished to give corn oil a fair trial. I ascertained from reliable sources that the output of corn or maize oil is practically unlimited and it being only a by-product in the manufacture of starch minimizes its cost of production and makes the selling price proportionately low. The low price of maize oil, combined with all the good qualities of a palatable and wholesome oil, makes it the ideal oil for patients suffering from pulmonary tuberculosis.

I have given it not only to such as applied at the Central Free Dispensary for treatment, but also to such as came under my care at the Tuberculosis Institute and in all cases with equal gratifying result. I am convinced, from many close observations, that as a food or tissue builder it is fully equal to cod liver oil or olive oil. The ingestion of corn oil is well tolerated. It does not cause the nauseous eructations which usually follow the taking of cod liver oil, and the prolonged and increasing dosage is always well borne by the stomach.

Corn or maize oil (oleum mayidis, oleum zea mais) is obtained from ordinary corn. The amount of oil in corn varies from 3.5 to 6 per cent. The oil is found almost entirely in the germ which represents about 6.5 per cent. of the weight of the corn and about 50 per cent. of this germ is pure oil. It possesses all the properites of the fixed oils, being insoluble in alcohol or water, but very readily soluble in chloroform, ether or carbon bisulphid. Its color is light straw, it possesses

a peculiar corn flavor, has very slight drying properties and a specific gravity of about 0.92, which is about the same as that of cod liver oil. Its viscosity is greater than that of olive oil. Its composition, like that of all vegetable fixed oils, is somewhat complex, mostly glycerids of the fatty acids, stearic, palmitic, oleic, archidic, etc. The chief source of maize oil is as a by-product in the manufacture of starch, dextrin and glucose. A small quantity is obtained when corn undergoes the process of fermentation in the manufacture of alcohol, and a like small quantity is obtained from the hominy mills.

The usual process of manufacture is very simple. In making starch the corn grain is steeped until the kernel is softened and the germ has assumed a tough, elastic condition. The warm steeping water is run off, the grain washed and then shredded apart and coarsely ground. This usually suffices to loosen the germ from the rest of the grain. The magma is now placed into tanks of rinsing water in which the starch granules settle rapidly to the bottom, while the light germs float off from the top. These germs are then washed, dried, ground and the oil removed by hydraulic pressure. The oil as obtained is very easily refined and clarified, simply by placing the expressed oil in large airtight containers for a definite time when the albuminous matter subsides or the subsidence of the albuminous matter may be hastened by the addition to the oil of an inert, insoluble earth, such as kaolin, decanting the clear oil and filtering.

Every physician, with but limited experience with pulmonary patients, knows fully well that pulmonary tuberculosis is most prevalent among the indigent and needy poor and that the purchasing price of oils or fats, be it in the form of olive oil, cod liver oil, butter, etc., is not always within reach of these unfortunates; hence an oil or fat which possesses all the food values of the best oils or fats that are used in the building up of the wasting tissues, and at a cost to the purchaser of only one-fourth in money value, is undoubtedly an item which demands the careful consideration of every painstaking practitioner of medicine.

170 Colorado Avenue.

THIMBLE AND DISSECTOR FOR SURGEONS.

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Every surgeon, doubtless, wishes almost daily that he had a long, strong, aseptic finger-nail and a thick insensitive callus on the end of one of his fingers. The

thimble here illustrated is designed for the purpose of giving him a substitute for these. Except that the depressions in it are twice as large and deep, it is an ordinary thimble, with a quadrangular piece of steel firmly soldered in the position shown by the illustration. The steel projects one-fourth of an inch beyond the tip of the thimble and its edges are smoothly rounded. The thimble is designed for laying in interrupted or other sutures with a straight needle, the projecting tip being used to tuck in any everted edges. The instrument renders possible the sewing of tough structures without the aid of a needle holder and therefore with greater rapidity. Any long, sharp, straight needle may be used, but I have found it best that the needle should be two and one-half inches long. I have found the thimble very useful as a dissector for the purpose of picking up structures near large vessels and nerves.

Therapeutics

Elaterinum, U. S. P.

Elaterin is a neutral, active principle obtained from the juice of the fruit (a cucumber-like affair) of a trailing vine which grows in the countries around the Mediterranean Sea. One hundred of these cucumbers yield only a gram (15 grains) of elaterin, and it takes about eighty pounds of them to produce thirty grams (an ounce). Elaterium, or the dried juice of the cucumber, occurs in small, grayish fragments or masses, and has a tea-like odor and an acrid taste. Owing to its adulteration and variation in strength the elaterium as such is not now recognized in the Pharmacopeia, but its active principle, elaterin, is extracted, of which the juice contains from 25 to 35 per cent.

Elaterin occurs in small white scales or crystals, is of acrid bitter taste, is without odor, is insoluble in water, and but slightly soluble in alcohol.

It is irritant to the skin and mucous membranes, and frequently causes ulceration of the fingers and eyes of those working with it.

Internally its action resembles that of colocynth, but it is far more powerful. In small doses it acts as a stimulant to the gastrointestinal mucosa, increasing its secretion. It is also a stimulant to the pancreas and liver, perhaps reflexly. In larger doses it is irritant to the intestine, producing profuse watery stools, usually accompanied with griping and nausea, and occasionally with vomiting. Elaterium is one of the most powerful hydragogue cathartics, and large doses can produce dangerous prostration and even death. Elaterin acts when used hypodermatically, but is much more efficient when given by the mouth, as the bile seems to render it more active.

Elaterium is indicated when it is advisable to produce profuse serous discharges from the intestines, and has been used for many years in dropsies. It is especially valuable when there is effusion in the serous membrane cavities (pericardial, pleural and peritoneal cavities), and it also is often used successfully when there is general anasarca. Frequently diuretics will not act efficiently until free watery catharsis has relieved the pressure from exudates. Whenever this drug or any other is used to relieve dropsies it must be remembered that the intake of water in any form must be diminished. Elaterium has long been used in uremic conditions, whether there is dropsy or not, and it has often seemed that it relieved cerebral symptoms better than other hydragogue cathartics. It has been thought that it caused the elimination by the intestines of more of the products of metabolism, that the kidneys could not excrete, than any other cathartic. It has also been used to relieve cerebral and pulmonary congestions, acting as a revulsant. However, in cerebral congestion a quicker acting drug, as croton oil, is often better, and in dangerous acute pulmonary congestion any quickly acting hydragogue cathar-

tic, as magnesium sulphate, will act as well, or better still, venesection as indicated.

The contraindications to the use of the elaterium are, gastric or intestinal inflammation, extreme exhaustion, any weak heart condition, and pregnancy. Unlike the action of croton oil, and unlike the action of the saline cathartics, after the movements of the bowels begin they tend to keep up, causing a large drain of water from the system which becomes very depressing, and sometimes can be stopped only by the hypodermatic use of morphin with atropin. This undesired action of elaterium prevents its frequent use.

The dose of elaterin is from 0.003 to 0.006 grams (from 1/20 to 1/10 grain), and it may be repeated once or twice at five-hour intervals, depending on the results.

TRITURATIO ELATERINI is the only official preparation of elaterin, and contains 10 per cent. of the drug. The dose is 0.03 gram (½ grain).

It is not wise to use elaterin every day or even every second or third day, as it causes prostration and may cause intestinal inflammation. Consequently, if watery catharsis is desired daily, some saline hydragogue cathartic should be selected.

Nitrites.

The value of the nitrites seems to be in their ability to reduce the blood pressure. In some instances such reduction needs to be instantaneous, and in other conditions, as in arteriosclerosis and chronic nephritis, it is sometimes advisable to keep the blood pressure constantly reduced.

The official preparations are:

AMYLIS NITRIS, nitrite of amyl, is a very volatile liquid which is administered by inhalation only, and the dose is a few drops on the handkerchief, or a glass capsule (or "pearl") is broken in a handkerchief and thus inhaled.

SPIRITUS GLYCERYLIS NITRATIS, the spirit of nitroglycerin, or glonoin, or trinitrin, as it is also termed, is a 1 per cent. solution of nitroglycerin, and the dose is one or two drops, administered in water.

SODII NITRIS, sodium nitrite, occurs in white opaque masses or as crystals. It is odorless and has a mild saline taste. It quickly changes to the nitrate on exposure to the air and is then unfit for use. It is very soluble in water, and the dose is 0.065 gram (1 grain).

Nitroglycerin is also offered in tablet triturate form, the dose ranging from 1/400 to 1/50 of a grain.

The action of amyl nitrite as a vasodilator is instantaneous, and with this action the heart is accelerated and the head feels full and throbs. It sometimes causes severe headache. If the amount inhaled is considerable the patient becomes faint, and always after nitrite of amyl has been used the patient should remain at rest for some time. The intensity of the action is soon over and, therefore, nitrite of amyl is indicated when instantaneous effect is desired, as typically in angina pectoris, or during the aura of an epileptic seizure. In the first instance, it obviates the danger of cardiac spasm, and in the second instance may abort the convulsion. In sudden cardiac failures, as in ether or chloroform narcosis, nitrite of amyl has sometimes been administered, but for such purposes is rarely indicated.

When a more prolonged vasodilator effect is desired, nitroglycerin is indicated, either administered hypodermatically in soluble tablet where the dose should rarely be more than 1/100 of a grain, or a tablet is allowed to dissolve on the tongue, or a drop or two of the spirit of nitroglycerin, or when slower action is desired, swallowed after a meal. Unless the condition is one of emergency and the quick stimulating effect of nitroglycerin is desired which will immediately be followed by dilatation of the peripheral blood vessels, nitroglycerin should be swallowed after a full meal. In this way the sudden, intense action with throbbing and fulness in the head is obviated. Nitroglycerin may be administered, when considerable dilator action is desired, every three or four hours, but three times a day, or perhaps better, four times a day (i. e., after each meal and at bedtime), is generally the frequency that is sufficient to continuously keep a high blood pressure slightly reduced. In hypertension in chronic endarteritis or arteriosclerosis it may frequently be noted that a small dose acts more satisfactorily than a larger one, i. e., many times 1/400 of a grain of nitroglycerin will act better than a larger dose. It must be remembered that such patients do not do well with low tension. Nitroglycerin is also very efficient and very successful in overcoming cardiac distress and dyspnea when there is aortic narrowing, when the left ventricle is not weakened.

Nitroglycerin also often relieves insomnia, when given at bedtime, by causing enough relaxation of the vessels to produce normal anemia of the brain—this in old people. Also many times in continued fevers when alcohol seems indicated, nitroglycerin may be substituted to cause just sufficient dilatation of the surface vessels to aid in diminishing the temperature, which is one of the valuable actions of alcohol in fever.

It should be emphasized that the disagreeable, sudden and unpleasant effect of nitroglycerin may be obviated by giving smaller doses and by administering it after a meal and swallowing it with water; in other words, not allowing the medicine to be absorbed from the mouth.

The value of nitroglycerin in asthma to abort or to shorten the acute attack is well understood. The dose selected, perhaps 1/100 of a grain, should be administered every fifteen minutes until the severe headache or frontal throbbing is relieved, at which time the bronchial spasm will generally have relaxed.

While nitroglycerin is not so quick in its action as nitrite of amyl, and is more prolonged, its action is not so lasting as that of sodium nitrite, hence sodium nitrite is often used in its place. This drug should be administered three times a day, after meals, as:

R.	gm.		
Sodii nitritis	1	or	gr. xv
Sodii bicarbonatis	20		3v

M. et fac chartulas 20.

Sig.: One powder, three times a day, after meals.

If the above alkali is not indicated as it often is in patients who need nitrites, any simple powder, as sugar of milk or any other combination, may be made that is deemed advisable.

H. Vaquez, *Archives des Maladies du Cœur, des Vaisseaux et du Sang*, January, 1908, advises the use of sweet spirits of nitre, spiritus ætheris nitrosi, not so much to decrease the vascular tension as for the general sedative effect on the circulation. If the sweet spirits of nitre is freshly prepared it may have some vasodilator effect, which is the only way that it could cause a sedative effect on the circulation, but for this purpose it is rarely used in the United States, the other preparations meeting better the indications for which nitrites are used.

Remedies for Asthma.—T. Brugsch contributes to the *Therapeutische Monatshefte*, December, 1907, an analysis of twenty-three of the various asthma remedies on the market. Most of them contain potassium iodid with or without some narcotic and a more or less harmless expectorant. The "inhalers" generally contain atropin, cocain or menthol, and the "smokers" some of the solanaceæ with potassium nitrate or nitrite. He gives working formulas for each, from his analysis, and adds that a similar compilation of analyses of proprietary remedies for gout might prove instructive.

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[For other information see second page following reading matter]

SATURDAY, JULY 4, 1908.

FOURTH OF JULY ACCIDENTS.

After five years of active campaigning we commence our sixth annual compilation of statistics of Fourth of July accidents and fatalities. There is something gruesome and at the same time enraging to feel that to-day possibly hundreds of persons will be slaughtered and some 4,000 or 5,000 wounded and maimed who yesterday were care-free children preparing to make a Chinese holiday.

The supreme contempt of the American public for human life, as exemplified in our appalling daily slaughter by railroads, machinery, and preventable diseases, is nowhere so vividly shown as in this annual massacre. For the most part the responsibility can be laid at the doors of our inefficient municipal officials who make no earnest effort to check dangerous forms of celebration, although they are almost universally empowered by statute to do so. They will, with few exceptions, make this effort only when it becomes apparent that the public really demands it, and so the matter finally drifts back on public sentiment without waiting for which few public officers care to move. In a few cities there have been exceptional individuals in power who have demonstrated that it is not a difficult matter to check the dangers of the Fourth, and that any honest effort in this direction will receive public support and approbation.

Nevertheless we can look forward to having the responsibility of the care of some 5,000 wounded young "patriots" laid on the medical profession this year as every year, and we hope to see the steady and remarkable gain in the reduction of tetanus mortality continued. When THE JOURNAL first began its statistical studies five years ago the Fourth of July tetanus cases numbered 415, but after the publicity given these figures and the widespread demand for thorough surgical treatment and antitoxin prophylaxis in all blank cartridge and cannon cracker wounds, the morbidity dropped remarkably. From the 415 cases of 1903 the number was reduced to 105 in 1904, 104 in 1905, 89 in 1906, and 73 in 1907. As this improvement took place while the total number of accidents remained practically stationary, and with the deaths from causes other than tetanus rising steadily from 60 in 1903 to 102 in 1907, it is evident that the annual saving of 300 or more lives from tetanus has been accomplished in spite of public carelessness and official incompetence, through the activity of the medical profession. We have observed with no little satisfaction that nearly all the tetanus cases have developed in persons who did not receive medical attention in time to check the disease—a statement that we could not make five years ago.

Every annual compilation that we make of this subject adds to the now conclusive evidence that tetanus antitoxin is an almost infallible prophylactic, and that it should be used at the earliest possible moment for every case of penetrating wound caused by Fourth of July injury. Thorough surgical cleansing under anesthesia is, of course, imperatively demanded, but this alone, no matter how carefully carried out, can not give the absolute security that is assured when good surgery is supplemented by antitoxin prophylaxis. Since the Hygienic Laboratory has provided a standard for testing tetanus antitoxin, and has defined a unit for measuring the antitoxin strength, the value of the antitoxins on the market has now become something tangible, and their usefulness have been greatly increased. The unit is defined as ten times the least quantity of antitetanic serum necessary to save the life of a 350-gram guinea-pig for ninety-six hours against the official test dose of a standard test toxin furnished by the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The Society of American Bacteriologists, in December, 1906, adopted a resolution in regard to the standardization of tetanus antitoxin and decided that the minimal immunizing dose for a case of possible tetanus infection should be 1,500 units.

We regret that it is not possible to hold out more hope of success in the curative treatment of well-developed tetanus, but in this respect the situation has changed but little in several years, and the mortality of tetanus resulting from these Fourth of July wounds is still probably over 90 per cent., although we can not secure reliable figures on that point. There are occasional cures reported that stimulate interest, but on investigation these are for the most part in cases with less virulent infections as shown by a long incubation period or mild symptoms. Tetanus, except in the largest hospitals, is encountered so rarely that most of the newer methods of treatment must be considered as still in the experimental stage. On the whole, the most useful method of treatment applicable by the general practitioner seems to be the subdural injection of repeated doses of antitoxin preceded by withdrawal of as much as possible of the toxic cerebrospinal fluid, and accompanied by injection of large doses of antitoxin subcutaneously. Rational symptomatic treatment with sedatives, narcotics, and, when necessary, with anesthetics, should also be carefully followed out. Controlling the spasms by intraspinal injections of eucain or cocain as proposed by Murphy, or magnesium sulphate as advocated by Meltzer, may also be found of value, but we

need many more clinical reports on these methods. As tetanus is so rare a disease that the experience of any one person is of necessity limited, it is desirable that the experience of each be recorded and made available for all. We will welcome any case reports or other information concerning cases of Fourth of July tetanus that will aid us in compiling the record of this year's celebration.

AMERICAN MEDICAL ADMINISTRATION IN PANAMA THROUGH BRITISH EYES.

It is gratifying to read such a generous appreciation of American state medicine as is contained in an article on "America's Triumph in Panama," by John George Leigh.[1] Mr. Leigh, it will be remembered, contributed articles to the *Lancet*[2] explanatory of the climatic and hygienic problems facing the United States administration in the inaugural stages of work on the Isthmian Canal. He insisted that the success of the undertaking would depend not on the skill of modern engineers, of which there was no doubt, but on the question whether the health environment could be so ameliorated as to abolish the disastrous conditions that had caused the failure of previous attempts. He urged that the last word in the fateful decision then pending, between high-level and low-level plans, respectively, should be spoken "not by the aspiring engineer, but by the profession which will be held mainly responsible should the prophecies of ill be justified by events." The temporary success of the adherents of the sea-level scheme and its speedy abandonment justified Mr. Leigh's foresight.

In the present article he records the history of the canal from that date. In view of the clear-spoken responsibility which he had previously laid on the work of the medical department, and indirectly on the attitude that the government should adopt toward that department, his comment on the results as they actually befell is well worthy of reproduction. After recounting the reconstruction of the commission, consequent on the "unendurable and even dangerous" situation into which the project had fallen, by a lack of heed to the warning as to the paramount importance of the hygienic administration, Mr. Leigh continues: "All these appointments have been fraught with happy consequences, and none more so than that of Colonel Gorgas, whose promotion to the rank of commissioner must be regarded, not only as a well-merited personal compliment but also as a national recognition through the chief executive of the immense services which are being rendered to the United States in the prosecution of its great undertaking by members of the medical profession." It is to Colonel Gorgas' efforts and to his loyal support by the administration that Mr. Leigh attributes the fulfilment of his prophecy in 1905, that the canal would, "during construction, prove the most striking object lesson ever offered of the benefits to be derived from a well-organized sanitary organization associated with a great public work."

The article concludes: "In the lap of the gods rests the future of the Panama Canal enterprise. Whether it prove the great engineering triumph and commercial highway to which many of us look forward with confidence time alone will show, but of one credit history can never rob the United States. Among much good and evil it must record that it was under American administration that the knowledge and resources of modern science were applied to the hygienic redemption of the once noisome isthmus. Such fruits of labor in this direction have already been gathered that they promise to rival as a worthy monument of American achievement even the canal itself." We can thankfully accept this ungrudging praise, for we know it to be as just as it is generous.

1. Lancet, June 6, 1908, p. 1646.
2. June 3, 10, and 24, 1905.

A SPLENDID GIFT TO ADVANCE PSYCHIATRY.

Probably the phase of medical advance, in this age of progress, of which the world at large is least cognizant is that in psychiatry; and it is safe to affirm that in no country have greater strides in this branch of medicine been made than in the United States. They have, however, been unheralded by public clamor; rather, on the contrary, where the results of recent scientific research in that direction have been forced on the attention of the public, as by the attitude of the medical profession to the relations between crime and insanity, they have been greeted with indifference. But, for all that, the advance is real, and must sooner or later be acknowledged; indeed, the awakening is already at hand.

Significant, as well as munificent, is the recent splendid gift to Johns Hopkins University of Mr. Henry Phipps—to whose philanthropic interest in behalf of another great problem, tuberculosis, the Phipps Institute in Philadelphia, as well as the Phipps Dispensary for Tuberculous Patients at Johns Hopkins Hospital, bears practical and eloquent testimony. He now gives $750,000 to build a psychiatric addition to Johns Hopkins Hospital and to endow it for ten years with clinical, research and educational facilities, as was briefly noted in THE JOURNAL last week. The director of the psychiatric clinic and professor of psychiatry appointed by the trustees, on the recommendation of the medical faculty, to fill the new office established by this benefaction, is Dr. Adolph Meyer, of New York. It would certainly have been difficult to make a better selection. To a general culture broad beyond the average, Dr. Meyer adds a notable experience as a scientist and psychiatrist. After a distinguished academic career at Zürich, where he was born, including study in London, Edinburgh, Paris, Vienna and Berlin, he came to America in 1892 and at once rose to prominence, becoming in

succession a teacher of neurology in the University of Chicago and pathologist to the Illinois Eastern Hospital; then director of the clinic and laboratory at the Worcester (Mass.) Insane Hospital and a teacher of psychiatry at Clark University, and, finally, director of the pathologic institute of the New York State Hospital, Ward's Island, and professor of psychiatry at Cornell University. His contributions to the literature of nervous and mental diseases are many and notable.

In accordance with a sound principle now becoming more and more general, Dr. Meyer and the architect of the proposed buildings will shortly make a tour of the principal psychiatric clinics abroad, with the view of starting the new institution from the most advanced point, in the matter both of building and of administration.

BACTERIAL THERAPY AND DIAGNOSIS OF GONOCOCCUS ARTHRITIS.

The strenuous application of opsonic therapy to clinical uses by persons of all degrees of qualification has led to a confused tangle of contradictory results and debatable conclusions, from which the solid facts are hard to isolate. Out of the confusion, however, certain facts have emerged definitely and prominently; one of these is the readiness with which hypersensitization to bacterial substance may be obtained, and the relation of this hypersensitization to the well-known tuberculin and mallein reactions. Another is the unquestionably favorable results that are sometimes obtained in certain tuberculous lesions, and in a few other forms of infection, from careful and judicious immunization with dead bacteria.

Acute infectious processes, as a rule, are much less likely to be favorably influenced by this method of treatment than chronic infections, even when produced by the same organism, and gonococcus infections constitute no exception to this rule. Bacterial therapy has given for the most part uncertain or no results in the treatment of acute urethritis and vulvovaginitis, although there are some who have been encouraged by their experience in this field. Gonococcus arthritis and periostitis, however, on account of their chronic course offer particularly favorable conditions for bacterial therapy, and here the results seem to be promising. Cole and Meakins observed favorable results in fifteen cases of gonococcus arthritis in which inoculations were given and systematic observations made on the opsonic index. Recently Irons[1] has reported forty cases of gonococcus infection, including thirty-one cases of arthritis, in which bacterial inoculation was tried, and the results were favorable, especially in the chronic forms of gonococcus arthritis. It was incidentally observed that massage of the prostate, when this organ is infected, has much the same effect as an injection of dead gonococci, being followed by a marked rise in the opsonic index of the blood and a favorable influence on any coexisting gonococcus infection. Presumably the massage causes an autoinoculation with gonococci, which results in an augmentation of the powers of resistance.

Besides the therapeutic results Irons has made another observation that seems to promise much of value in the diagnosis of gonococcus lesions. He noted that in patients suffering with gonococcus arthritis or other localized infections with the same organism, injection of dead gonococci is followed by clinical phenomena that are similar in many respects to those following injection of tuberculin in tuberculous patients, while no effects are produced by injecting dead gonococci into normal individuals. A slight rise of temperature and some malaise accompany an increase in the local symptoms in the joints, and sometimes there is a local reaction at the point of injection; with these manifestations there is a temporary lowering of the opsonic index, which is followed by a rise in the index and an improvement in the course of the disease. As gonococcus arthritis is often difficult of diagnosis, and establishment of the correct etiologic factor is of especial importance now that specific bacterial therapy is being found of value, this "gonococcus reaction" may be of great assistance in the diagnosis of arthritic conditions. Several cases are cited by Irons in which this reaction was found to point out the presence or absence of gonococcus infection. His conclusions, which are quoted below, are tempered with scientific conservatism.

"Clinically in a number of cases the injections of dead gonococci have seemed to be of distinct value. Many more series of cases must be studied before a definite opinion can be expressed, but the results obtained thus far seem to indicate that in certain cases at least of gonococcus arthritis recovery can be hastened by the injection of dead gonococci. No harm has appeared to follow the injections, and it is possible that the use of larger doses will be found desirable in some cases. With further work the limitations as well as the advantages of the method will appear, and it should be recognized that while it is attractive theoretically as a specific therapeutic measure, too much must not be expected of it in the way of marvelous cures. It should be used rather in conjunction with other general measures such as rest, aspiration of joints distended with fluid, massage of the prostate, and other surgical and general hygienic treatment. The reliability of the clinical gonococcus reaction as a diagnostic procedure will also be determined only after many tests. It has many points in common with the tuberculin reaction, and similarly, too, there may well be cases of gonococcus infection found which do not respond. It appears, however, to be well worth a trial. Should the reaction prove to be reliable, a valuable and much-needed aid will be at hand for the diagnosis of obscure joint, synovial and periosteal diseases."

1. Jour. Infect. Diseases, 1908, v, 279.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The International Congress on Tuberculosis which convenes in Washington, September 21 to October 12 and which has frequently been referred to in these columns, will, for many reasons, be a most notable meeting. The remark has been made that it will be somewhat surprising if such a congress can hold the attention of the public in the midst of what will doubtless be a spirited political campaign. It is to be hoped, however, that it will do this, for the meeting will be one, not merely of local, but of international importance. It will be participated in by experts in tuberculosis from all over the world, and America will be given an opportunity to learn from other nations the details of the organized fight against tuberculosis. In this respect, although we have made a creditable beginning, it must be admitted that, on the whole, we are somewhat behind other nations. It is expected that the work of the noted foreign visitors will not be limited to the congress, but that they will remain some time after the congress has closed and give the benefit of their experience in a series of addresses in the various cities of the country. The national government will take part and many of the states have already appointed representative committees. Those which have not done so should lose no time in perfecting arrangements for a complete exhibit of the measures which they are taking against the spread of the disease.

The fear is sometimes expressed that we are pushing the antituberculosis propaganda too far and inducing a veritable phthisiophobia. This apprehension has its justification, perhaps, in certain extreme measures which have been proposed, but when it is realized that the successful prevention of tuberculosis depends, not on mere quarantine measures, but on a genuine hygienic and social reform, it must be admitted that the movement is in little danger of going too far. One of the great benefits of the congress will be the incentive and the opportunity afforded to unify and coordinate the efforts of the different sections of the country so that all may work together in harmony and with the greatest benefit.

The congress should awaken in the general public a widespread interest and should emphasize the fact that the movement against tuberculosis is one which in its economic and humanitarian aspects belongs to the general public and not to any class. To this end it is to be hoped that the exhibition and popular lectures will attract wide attention.

Aside from the services of the congress in the interests of preventive medicine, we may expect important contributions to the pathology and treatment of the disease. The preliminary work of preparation has been done largely under the auspices of the National Association for the Study and Prevention of Tuberculosis and the thanks of the profession are due this organization for its efficient efforts. The best expression of this appreciation will be a determined effort on the part of every one so far as possible to make the congress a success.

CLEAN ADVERTISING—A SIGN OF THE TIMES.

We are glad to add to our already published instances another example of "sweet reasonableness" on the part of the press in regard to the question of cleaning up the Augean stables of advertising. Considering that the task is a costly one for those publications engaged in it, it is meet that it should receive public recognition and thanks when it is conscientiously performed. The instance to which we refer this week was brought to our notice by Drs. Boyer and Boyer of Indianapolis. One of this firm, a subscriber to a monthly periodical called *Reason,* published at Rochester, N. Y., called the attention of the publishers to the fraudulent nature of Actina, an advertisement of which that journal carried. The publishers replied courteously, thanking Dr. Boyer for directing their attention to it. They stated, however, that they had investigated the matter, so far as they were competent to do so, before accepting the advertisement, and added: "You must admit that such statements as you have made call for substantiation and proof that will convince any fair-minded person. It is clearly 'up to you.' Make good your assertion and we will gladly cease advertising this firm and tender you our most sincere thanks. Failing this, we shall send your letter with a note of explanation to the Actina Company, as you are doubtless aware it is actionable for libel. This is quite fair, is it not?" Quite fair, it would seem—fair alike to the legitimate demands of subscribers and to the just interests of advertisers, showing bias in neither direction, but a level-headed sense of justice and a desire for the right. The reply of Dr. Boyer was simple but effective. He forwarded a marked copy of the "Great American Fraud" reprint. Thereupon the Austin Publishing Company wrote to thank him, and stated that they "have decided to suspend the advertisements of the Actina Company, classing them as 'undesirable.'" They further ask permission to keep the booklet, "for use as a check for future advertisements of this nature." This is a noteworthy demonstration of three important points: 1, The awakening of the press conscience to the fact that it has a duty in the matter of fraudulent advertising; 2, the effectiveness of Mr. Adams' Great American Fraud series; and 3, the service that can be rendered to the cause by individual physicians who have the strength of their convictions. *O, si sic omnes!*

A CORONER ON OPERATIONS.

In our London correspondence[1] this week we are told that a British coroner is attracting attention among medical men by his attitude with regard to deaths due, directly or indirectly, to operations. The coroner's argument is that, with the great increase of surgical operations, some deaths are doubtless due to the operation itself and, therefore, come within the cor-

1. Page 50.

oner's jurisdiction. In the case referred to by our London correspondent, such a well known man as Sir Victor Horsley was called on to testify in a case of death resulting from the removal of a brain tumor. The coroner directed the jury that a verdict of accidental death would be proper if the members of the jury were "satisfied that the operation was justifiable and that all due care had been taken." Even were such supervision as that suggested by this zealous officer either necessary or desirable, the idea of a jury of twelve men, possessing neither medical nor surgical knowledge, passing on the question as to whether an operation performed by one of the foremost surgeons of the day was "justifiable," is, in its last analysis, laughable. Equally ridiculous is the attempt on the part of the same men to determine whether or not "due care had been taken" at the operation. The whole system savors too much of that relic of barbarism that obtains in many of our state courts in which a jury of laymen pass on the question of an individual's sanity. It is conceivable that, in those cases in which the surgeon has been, justly or unjustly, the subject of censure, a coroner's jury composed of an equal number of intelligent laymen and of physicians might render a valuable service both to the public and to the medical profession. The idea, however, that a jury composed only of laymen is competent to pass judgment on cases involving so many abstruse and nice points of a purely technical nature is preposterous.

Medical News

CALIFORNIA.

Fees Allowed.—In the circuit court recently, Dr. Peter C. Remondino, San Diego, was allowed $2,000 fees for professional services to the late George W. Crane. Dr. Remondino's claim originally made was for $3,900.

Unlicensed Practitioner Sentenced.—Thomas H. Storey, Los Angeles, is said to have been found guilty, May 15, of practicing medicine without a license and to have been sentenced to imprisonment for sixty days and to pay a fine of $500.

Medical Meetings.—The Alumni Association of the College of Physicians and Surgeons, San Francisco, has elected the following officers: President, Dr. Francis B. Williams; vice-presidents, Drs. Thomas Fletcher and Frederick C. Keck; secretary, Dr. Charles M. Troppmann, and treasurer, Dr. H. A. Mager. The Orange County Medical Association, at its annual meeting and banquet, held in Santa Ana, installed the following officers: President, Dr. John Wehrly, Santa Ana, vice-president, Dr. J. L. Beebe, Anaheim; secretary, Dr. Jessie M. Burlew, Santa Ana; treasurer, Dr. John L. Dryer, Santa Ana, and librarian, Dr. Howard S. Gordon, Santa Ana.

CONNECTICUT.

Typhoid Epidemic.—Typhoid fever is reported to be epidemic in Terryville. The health officer in making investigation as to the source of the epidemic, found that all the typhoid patients had procured their milk supply from one individual, and that a portion of this supply had been procured from a farm which has a typhoid history.

Society Meetings.—At the annual meeting of Litchfield County Medical Association, held in Winsted, the following officers were elected: President, Dr. Irving L. Hamant, Norfolk; vice-president, Dr. Salmon G. Howd, Winsted; clerk, Dr. Frank H. Lee, Canaan; and councilor, Dr. Edward H. Welch, Winsted.——At the one hundred and sixteenth annual meeting of Hartford County Medical Society, held in Hartford, the following officers were elected: President, Dr. Charles M. Wooster, Tariffville; vice-president, Dr. Charles D. Alton, Hartford; secretary-treasurer, Dr. Frederick B. Willard, Hartford; councilor, Dr. Oliver C. Smith, Hartford; censors, Drs. Thomas F. Kane, Hartford; Walter, G. Murphy, East Hartford; and Edward G. Fox, Wethersfield.——At the annual meeting of Middlesex County Medical Association, held in Middletown, the following officers were elected: President, Dr. James Murphy, Middletown; vice-president, Dr. Michael D. Murphy, Middletown; clerk, Dr. Arthur B. Coleburn, Middletown; censors, Drs. Miner C. Hazen, Haddon, and John E. Bailey, Middletown; secretary-treasurer, Dr. James T. Mitchell, Middletown; councilor, Dr. Frank K. Hallock, Cromwell; and delegates to the state society, Drs. Arthur B. Coleburn and Jeremiah F. Calef, both of Middletown.——The Hartford Celtic Medical Research Society was organized June 11, and the following officers were elected: President, Dr. Daniel F. Sullivan; vice-presidents, Drs. Edward J. Turbert and Thomas F. Welch; treasurer, Dr. P. R. McPartland; secretary, Dr. James F. Rooney.——The Willimantic City Medical Society was organized June 19 by the physicians of the city, and the following officers were elected: President, Dr. Theodore R. Parker; vice-president, Dr. T. Morton Hills, and secretary-treasurer, Dr. Clarence E. Simonds. A committee was appointed to draft a constitution and by-laws, and the organization will be completed July 6.

DISTRICT OF COLUMBIA.

Recommended to Mercy.—Dr. Robert C. Anderson, Washington, indicted for house-breaking, is said to have been convicted June 11. The jury recommended him for mercy and requested that his mental condition be made the subject of official inquiry.

Unlawful Practitioner Sentenced.—Edward Leon Thompson, known as "Dr. Leon," who was recently convicted for performing an illegal operation on a colored woman, is said to have been sentenced, June 5, to imprisonment for five years in the penitentiary.

Dismissed from Service and Imprisoned.—Assistant Surgeon David A. Spear, U. S. Navy, charged with forging endorsements on pay checks, and who is said to have admitted having stolen from officers, and whose defence was mental incompetency from drink, is said to have been found guilty and sentenced to dismissal from the service and to imprisonment for one year.

ILLINOIS.

Large Class Examined.—At the Illinois State Board of Health examination, held in Chicago, June 24 and 25, there were 365 applicants, making the largest class on record to take the examination.

Fined for Prescribing Beer.—Dr. Roy C. Richards, Hopedale, accused of violating the "Dram Shop Act" by prescribing beer for a patient, is said to have pleaded guilty of technical violation of the law, and to have been fined $20 and costs.

Bids for Antitoxin.—The State Board of Health, through its secretary, Dr. James A. Egan, Springfield, is advertising for sealed proposals for diphtheria antitoxin for free distribution by the board. The legislature has appropriated $30,000 for this purpose.

Smallpox.—Elgin reports 18 cases of smallpox and 8 houses under quarantine.——Joliet still has 9 cases of smallpox; seven of the patients are in the Isolation Hospital and all are on the road to recovery.——Four cases of smallpox are reported at the Rock Island County Infirmary.

Tribune Hospital Opened.—The fourth consecutive season of the Tribune Summer Charities at Algonquin was inaugurated the first week in June. Building operations of the second building of the group have already been commenced. This building is to be a central pavilion, containing a dining hall, diet kitchen, laundry, general offices, etc.

Chicago.

Fire in Medical College.—A fire on June 21, originating in the clinical laboratory of the College of Physicians and Surgeons, caused considerable alarm to patients in the hospitals near by, although no one was injured. The total loss was about $3,000.

Vaccinators Invade Black Belt.—On June 25 a hundred physicians, under the direction of Drs. Heman Spaulding and I. Donaldson Rawlings of the department of health, made a house-to-house inspection of the territory lying between State and La Salle and Sixteenth and Forty-fourth streets. Every house was visited and the tenants were compelled to be vaccinated unless they could show satisfactory scars.

Communicable Diseases.—A total of 393 cases of communicable diseases was reported to the department during the week, 72 fewer than for the preceding week. To this total, measles contributed 177; diphtheria, 71; scarlet fever, 44;

whooping cough, 36; tuberculosis, 26; chickenpox, 22; typhoid fever, 12; smallpox, 2, and miscellaneous diseases of minor importance, 3. Of the two cases of smallpox, both patients were unvaccinated colored men, and in both cases the disease was apparently contracted outside of Chicago.

Personal.—Dr. G. R. Bailey obtained first place, Dr. H. B. Thomas second, Dr. Norman Kerr third, and W. R. Cubbins fourth in the civil service examination for the orthopedic surgery service at Cook County Hospital.——Dr. and Mrs. Arthur H. Brumback leave for Europe early in July.—Dr. E. C. Dudley and son expect to sail for Havre, July 18.——Drs. William A. Evans and George W. Webster have been elected members of the executive committee of the Chicago local advisory committee of the American Health League.

Mortality of the Week.—During the week 508 deaths were reported from all causes, or 53 more than for the preceding week, equivalent to an annual death rate per 1,000 of 12.23. The chief increase in mortality was from diarrhea diseases of infants and young children. Violence (including suicide) led the death causes with 55; consumption caused 47; acute intestinal diseases and pneumonia, each, 41; heart disease, 38; nephritis, 35; and cancer, 25. Eleven deaths were due to sunstroke; 12 to diphtheria; 7 each, to measles and typhoid fever; 6 to whooping cough, and 3 to scarlet fever.

Fourth-of-July Wounds.—The bulletin of the health department urges strongly the proper care of every Fourth-of-July wound, no matter how insignificant. The procedures advocated are as follows: Free incision of every wound; careful and thorough removal of every particle of foreign matter; thorough cauterization of the wound with 25 per cent. carbolic acid solution; application of a loose wet pack of 2½ per cent. carbolic acid solution; and the administration of a full dose of antitetanic serum. The wound should not be closed in any way and the dressing and packing should be renewed every day.

INDIANA.

Society of Social Hygiene.—The Indiana Society of Social Hygiene was organized at Indianapolis early in April, with the following officers: President, John H. Holliday; vice-presidents, Rev. Edwin Hughes and Hon. L. C. Walker; secretary, Homer G. Hamer; treasurer, Frank D. Stalnaker; official lecturer, Dr. Charles S. Woods.

Hospital Damaged.—The patients in St. Vincent's Infirmary, Indianapolis, were thrown into a panic, June 6, by a series of explosions in a gas plant, and one patient, one nun and four attendants were injured by flying débris, following the explosion. The coolness of the nuns and other attendants in the hospital alone prevented serious disaster.

Communicable Diseases.—Four new cases of smallpox are reported from Landesville.——Smallpox is still reported from Crawfordsville.——The smallpox epidemic in the southern part of Carroll County is now said to be under control.——Two new cases of smallpox were reported in Fort Wayne, June 9.——Fort Wayne reports sixteen cases of scarlet fever.

Health Officers' School.—The annual school for health officers of the state, under the auspices of the State Board of Health, was held in Indianapolis, May 14, nearly 400 officers being present and receiving instruction. Papers on various sanitary subjects were read and discussed, and the filtration works of the Indianapolis Water Company were visited.

May Death and Disease.—The most prevalent diseases in Indiana during May were rheumatism, tonsillitis and bronchitis. The total number of deaths were 2,694, equivalent to an annual death rate of 11.8 per 1,000. During the month 275 cases of smallpox were reported in 33 counties, with no deaths. Tuberculosis caused 389 deaths; typhoid fever, 27 deaths; diphtheria, 9 deaths; and violence, 221 deaths. There were 24 murders, 4 suicides, 33 deaths from railway accidents, 4 from street car accidents, 5 from lightning and electricity, 20 from burns and scalds, and 23 from drowning.

IOWA.

Acquitted.—Dr. Elijah M. Heflin, Calmar, charged with having performed a criminal operation on a Miss Kopet, was found not guilty by a jury at Decorah.

Commencement.—At the annual commencement exercises of Keokuk Medical College, May 26, a class of 38 was graduated.——Sioux City Medical College, at its annual commencement exercises, June 4, graduated a class of 9. Rev. Willis S. McFaddin delivered the doctorate address.

Jury Disagree.—After being out forty-eight hours, the jury in the case of Mrs. Annie Arp, asking damages of $50,000 from Drs. Alphonse L. Hageboeck, Julius T. Haller and J. H. Meyhaus, Davenport, on account of injuries alleged to have been the result of leaving a surgical sponge in the body of the husband of the plaintiff, during an operation for appendicitis, reported that they were unable to agree, and were discharged.

Personal.—Dr. Jerger, Waterloo, is about to take a year's trip around the world, via the west.——Dr. Rose H. Rice, Council Bluffs, has been elected supreme physician of the Woodman Circle, to succeed Dr. Jenny Califas, resigned.——Dr. Lawrence W. Littig, Iowa City, is reported to be seriously ill with septicemia.——Dr. O. J. Ruth, Keokuk, was operated on at St. Joseph's Hospital, May 24, for cholelithiasis.——Dr. Charles J. Cooney has been elected health officer of Oelwein.——Dr. Frank E. St. Clair, Hampton, is reported to have been seriously injured in a runaway accident.——Drs. Joseph M. Emmert and C. L. Campbell, Atlantic, have been appointed physicians for the A. N. & S. Railway.——Dr. S. S. Lytle, Iowa City, has been chosen director of the Iowa Department, G. A. R.

KANSAS.

Communicable Diseases.—Measles is reported to be epidemic in and around Culver.——There are said to be six cases of smallpox in one house in Leavenworth.——Rock Creek is reported to be free from contagious diseases.

Personal.—Drs. Guy L. Millington, Wellington, and Edwin B. Packer, Osage City, have been appointed members of the State Board of Medical Registration and Examination.——Dr. Judson C. Cole, Effingham, has been appointed health officer of Effingham and Atchison County.——Dr. A. B. Oechali has located at Stockton, succeeding Dr. J. C. Hinkle.

KENTUCKY.

Heavy Damages Claimed.—A. T. Poole, administrator of the late Dr. Henry J. Poole, Robard, has brought suit against the Louisville and Nashville Railway for $20,000 damages for the death of Dr. Poole, who was run over and killed by a train in December last.

State Hospital Changes.—Dr. Robert L. Willis, Lexington, has been appointed by the State Board of Control for Charitable Institutions, superintendent of the Eastern Asylum for the Insane, Lexington, vice Dr. John S. Redwine.——The following officers of the Lakeland State Hospital for the Insane have been reappointed: Superintendent, Louis H. Mulligan; assistant physicians, Dr. W. E. Gardner, John K. Wood and Louise B. Trigg, Glasgow.——Dr. Thomas W. Gardiner, Madisonville, has been appointed superintendent of the Western Kentucky Asylum for the Insane, Hopkinsville, vice Dr. James W. Stephens.

LOUISIANA.

Lepers Cured.—In the annual report of the Leper Home of the State of Louisiana, it is stated that one patient had been discharged cured, and that five others were practically well, but were still being held for observation.

Faculty Changes.—Dr. Isadore Dyer has been elected dean of the faculty and Dr. Gustav Mann, assistant professor of physiology in Oxford University, has been made professor of physiology in the Medical Department of the Tulane University of Louisiana, New Orleans.

Against Tuberculosis.—A branch of the Antituberculosis League of New Orleans was established at Winnfield, June 12, with Dr. Jonathan J. Peters, president, and Dr. Isaac E. Seiss, vice-president.——A branch of the Louisiana Tuberculosis League was organized at Bunkie, June 9, with Dr. E. Stanley Matthews, president.

Personal.—Dr. Robert P. Jones has been appointed a member of the Board of Health of Clinton.——Dr. A. A. Aucoin, Plattenville, has been elected president of the Assumption Parish Board of Health.——The school board of New Orleans has elected Dr. Edmond Moss chief inspector, and Drs. Edward McCarthy and J. J. Wymer inspectors of school children.

Organization.—The Attakapas Clinical Society was organized at New Iberia, June 10, with the following officers: President, Dr. Henry A. King, New Iberia; vice-presidents, Drs. Robert D. Voorhies, Lafayette, and T. T. Roussel, St. Mary's Parish; and secretary-treasurer, Dr. T. J. Williams. The American Medical Association's principles of ethics were adopted by the society.

Alumni Meeting.—At the meeting of the Charity Hospital Alumni Association, held in New Orleans, the following

officers were elected: Dr. James M. Batchelor, New Orleans, president; Drs. Arthur A. Herold, Shreveport, and Herman B. Gessner, New Orleans, vice-presidents; Dr. Charles N. Chavigny, New Orleans, secretary; Dr. Philip W. Bohne, New Orleans, treasurer, and Dr. Espy M. Williams, Patterson, historian.

MAINE.

New Health Officers.—Dr. Harris J. Milliken has been elected city physician of Bangor.——At the annual meeting of the Portland Board of Health, Dr. Edward J. McDonough was elected chairman.——At the annual meeting of the Westbrook Board of Health, Dr. Albion E. Cobb was elected secretary.

State Association Meeting.—The fifty-sixth annual session of the Maine Medical Association was held at Bangor, June 10 and 11, under the presidency of Dr. Barzillai B. Foster, Portland. The annual oration was delivered by Dr. Hobart Amory Hare of Philadelphia on "Hold Fast to that Which Is Good in Diagnosis and Therapeutics." The following officers were elected: Dr. Alfred D. Sawyer, Fort Fairfield, president; Drs. Calvin P. Thomas, Brewer, and Stanley P. Warren, Portland, vice-presidents; Dr. W. Bean Moulton, Portland, secretary, and Dr. Edwin W. Gehring, Portland, treasurer. It was decided to hold the next annual meeting in Portland.

Society Meetings.—The forty-fourth annual meeting of Somerset County Medical Association was held in Skowhegan, June 18, when the following officers were elected: President, Dr. Walter S. Milliken, Madison; vice-president, Dr. Leander A. Dascomb, Skowhegan; secretary-treasurer, Dr. Howard C. Taggart, Skowhegan; censors, Drs. Charles A. Moulton, Hartland, Warren G. Sawyer, Madison, and David S. Hunnewell, Madison.——At the annual meeting of Kennebec County Medical Association, held in Augusta, the following officers were elected: Dr. Theodore E. Hardy, North Vassalboro, president; Dr. Herbert E. Milliken, Waterville, vice-president; Dr. Wellington Johnson, Augusta, secretary-treasurer; and Drs. Virgil C. Totman, Oakland, Richard H. Stubbs, Augusta, and Asa B. Libby, South Gardiner, executive committee.——A medical club has recently been organized among the younger practitioners of Portland, with seven charter members.

MARYLAND.

Smallpox Near Baltimore.—Dr. James F. H. Gorsuch, Fork, health officer of Baltimore County, reports the smallpox epidemic in the river suburbs as well under control, 15 patients being cared for in tents and 10 in the State Quarantine Hospital.

Election of Officers.—At the nineteenth annual meeting of the Baltimore and Ohio Association of Railway Surgeons, held in Chicago recently, Dr. Franklin B. Smith, Fredericksburg, was elected president, and Dr. T. Murphy, Relay, secretary-treasurer.

Physician Wins Suit.—In the suit brought for $10,000 damages against Dr. Adolph G. Freedom, for alleged improper treatment in a case of diphtheria, whereby the son of the plaintiff is said to have died, the jury, by instruction of the court, returned a verdict for the defendant.

Vaccine Physicians Appointed.—Drs. Foster Sudler, Sudlersville; William G. Coppage, Church Hill; Ernest F. Smith, Centerville; John R. Benton, Stevensville; Roland H. Ford, Queenstown; Walter H. Fenby, Ruthsburg, and E. A. Landers have been appointed vaccine physicians for Queen Anne's County.

Health Bulletin.—The first series of health bulletins issued by the Medical and Chirurgical Faculty of Maryland, appeared in the Baltimore *Sun*, June 25, and was entitled "Modern Medicine Aims to Prevent Diseases as Well as to Cure Them." The second appeared June 28, and was on "Lockjaw." The articles appeared anonymously.

Baltimore.

Alumni Election.—The Alumni Association of the University of Maryland School of Medicine held its annual meeting and banquet, May 29. Dr. Thomas M. Chaney, Chaney, of the class of 1866 was elected president.

Personal.—Dr. Robert S. Kirk has been re-elected superintendent, and Dr. John Roth, assistant superintendent, of the Eastern Dispensary.——Drs. Roland B. Whitridge and C. Urban Smith have sailed for Europe.——Dr. Benjamin F. Lovelace, assistant in the department of chemistry, Johns Hopkins University, has been appointed professor of chemistry in the University of Alabama.——Dr. Frederick H. Baetjer sailed June 2 for Italy.——Dr. D. Webster Cathell has been ill at the Church Home Infirmary.——Dr. Philip S. Evans, Jr., a medical missionary in China, has returned to Baltimore, after an absence of seven years.——Dr. William D. Booker, who is now in Florence, reports that he is much improved in health.

MASSACHUSETTS.

Personal.—Dr. D. C. Rogers has been appointed assistant in applied psychology in Harvard University.——Dr. Prentiss, Harvard University, has been appointed assistant professor of anatomy at the Northwestern University Medical School.——Dr. F. C. Shattuck, professor of clinical medicine, Harvard Medical School, has had conferred on him the degree of LL.D. by the University of Cincinnati.

NEW YORK.

Death of Noted Optician.—Dr. Henry Lomb, one of the founders of the Bausch and Lomb Optical Company, Rochester, and one of the most prominent men in his line in the United States, died June 13, aged almost 80.

Typhoid at Auburn.—For the past ten years typhoid fever has pretty steadily prevailed in this city, there being from 21 to 68 cases yearly. This year the outbreak occurred earlier than usual, and by the latter part of May there had been 33 cases, with six deaths. This led the health officer to investigate. As there were only two articles universally used, milk and water, he supposed one of these to be responsible. The milk came from 14 different sources, and it did not seem reasonable to suppose all of these contaminated, so the water supply was investigated. It was found that at the head of Lake Owasco, from which the city supply is taken, there was a large influx of crude sewage. There seemed, therefore, but little doubt but that this was the source of the disease.

New York City.

Another Healthy Week.—Fewer persons died during the week ended June 20 than at any time since the establishment of the Health Department. There were 332 deaths less than for the week ended June 21, 1907. The rate was only equivalent to an annual mortality of 13.45 per 1,000. The Borough of Manhattan showed a lower death rate than any of the other boroughs.

Blow to Greater Bellevue Hospital.—The State Charities Aid Association has reported in opposition to the proposed enlargement of Bellevue Hospital and large expenditures for local and general hospitals in this city. They desire to have emergency relief stations in different parts of the city and eventually to replace these by local hospitals. The report provides for hospital needs until 1920.

Cooperation for the Suppression of Noises.—The health board has appealed to the police commissioner for aid in combating the noise nuisance. The noises are classified under four heads: the unnecessary whistling from boats in the rivers and harbor, the carting of loose metal through the streets, automobile horns and whistles and the noise incident to the Fourth of July. A patrolman will be stationed in front of every hospital on July 3, 4 and 5.

Poster War on Tuberculosis.—The committee on the prevention of tuberculosis have hit on a novel way of educating tenement dwellers in regard to the prevention of tuberculosis. A brilliant lithograph of a scene in Venice, around the border of which is printed advice in large type, has been distributed to 10,000 Italian families. The committee thinks the poster will be seen and its advice read by at least 50,000 persons. The same idea will be carried out among other nationalities.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended June 20, 428 cases of tuberculosis, with 143 deaths; 841 cases of measles, with 21 deaths; 377 cases of diphtheria, with 30 deaths; 410 cases of scarlet fever, with 25 deaths; 48 cases of whooping cough, with 3 deaths; 38 cases of typhoid fever, with 9 deaths; 7 cases of cerebrospinal meningitis, with 7 deaths; one case of smallpox and 108 cases of varicella, making a total of 2,258 cases, with 238 deaths.

Personal.—Dr. Adolph Meyer has been appointed director of the newly founded psychiatric clinic of Johns Hopkins University, Baltimore. Since 1902 Dr. Meyer has been director of the pathologic institute of the State Hospital of New York on Ward's Island. Since 1904 he has been professor of psychiatry in the medical department of Cornell University.——Warren Brown, Ph.D., assistant professor of psychology in Columbia University, has been appointed instructor in psychology in the University of California.

TENNESSEE.

Commencement.—At the commencement exercises of Tennessee Medical College, Knoxville, a class of 5 was graduated, Dr. W. Wallace Derrick, dean of the faculty, conferring the diplomas.

Personal.—Dr. A. C. Alexander, chief surgeon, and Dr. T. B. Hughes, assistant surgeon, of the Soldiers' Home, Johnson City, have resigned.——In the case of Dr. Abraham W. Boyd, Chattanooga, who was sued for $5,000 damages for alleged improper care of a patient, the jury returned a verdict in favor of the defendant.——Dr. J. Herman Feist, Nashville, who has been confined in jail for fifteen months past, has been released on bonds of $25,000.

New Medical Journal.—The advent of the *Southern Medical Journal* is announced at Nashville, the editorial staff consisting of Drs. Duncan Eve, Sidney S. Crockett, A. Bennett Cooke, William Litterer, Samuel M. Bloomstein, Joseph P. Keller, Marvin M. Cullom, William D. Haggard, Giles C. Savage, Lucius E. Burch, Hilliard Wood, George H. Price, Perry Bromberg, and George C. Trawick. The editor-in-chief will be Dr. John A. Witherspoon, and Drs. Worcester A. Bryan and James M. King will be the managing editors.

TEXAS.

Commencement.—The seventeenth annual commencement exercises of the Medical Department of the University of Texas, Galveston, were held May 30, when a class of 25 was graduated. Dr. James E. Thompson delivered the faculty address and President David F. Houston conferred the degrees.

Personal.—Drs. Wood and William A. Garrett, Houston, were painfully injured in a runaway accident, June 12.——Dr. James Greenwood, Jr., Seguin, has been appointed demonstrator of medicine in the University Medical Department, Galveston, and assistant physician to John Sealy Hospital, vice Dr. Wallace Rouse, deceased.——Drs. Joseph R. Stuart and John D. Duckett have retired from the board of health of Houston.

Alumni Meeting.—At the annual meeting of the Alumni Association of the Medical Department of the University of Texas, Galveston, held May 29, the following officers were elected: President, Dr. David H. Lawrence, Galveston, and secretary-treasurer, Dr. Henry Hartmann, Galveston. It was decided that an effort should be made to have a special meeting of the alumni in Galveston in May next, on the occasion of the meeting of the state medical association.

WASHINGTON.

Personal.—Dr. Aug. J. Ghiglione, Seattle, has gone to New York City to be away several months.——Dr. F. S. Burns has been made chief medical inspector of the health department, Seattle.

Prevention of Tetanus.—The health commissioner of Seattle, Dr. J. E. Crichton, has issued notice that in every case of wound from fireworks or premature explosion of revolvers or pistols, the victim immediately be inoculated with antitetanic serum.

Hospital Notes.—The contract for the construction of the new three-story addition to King County Hospital, Georgetown, has been awarded, to cost $44,273.——It is proposed to ask the state legislature for an appropriation to build a hospital for the criminal insane.——The new open-air house of the Orthopedic Hospital Society of Seattle, was formally opened to public use, June 3. The building is intended for convalescents from the orthopedic ward of the Seattle General Hospital, and will accommodate 8 patients.

WISCONSIN.

Personal.—Dr. Warren B. Hill has been elected dean of Milwaukee Medical College, vice Dr. William H. Earles, deceased.——Dr. Samuel Bell, Beloit, has been elected medical director of the Department of Wisconsin, G. A. R.——Dr. William F. Becker, Milwaukee, has been reappointed president of the Milwaukee Hospital for the Insane.——Dr. Andrew C. Mailer has been appointed health officer and city physician of De Pere.

Commencement Exercises.—The graduating exercises of the Milwaukee Medical College, Medical Department of Marquette University, were held at the Davidson Theater, May 25. Rev. James McCabe, president of the university, conferred degrees on a class of 50, and the doctorate address was delivered by Dr. William A. Evans, health commissioner of Chicago. The program of the graduation exercises was arranged in the nature of a memorial to the late dean, Dr. William H. Earles. A dinner in memory of Dr. Earles was held at the Plankinton House, June 23, at which Dr. H. L. Banzhaf officiated as toastmaster, and addresses were made by Dr. W. Augustus Evans and Truman W. Brophy, Chicago, Mayor Rose and John H. Moss.——The fifteenth annual commencement exercises of the Wisconsin College of Physicians and Surgeons were held May 28, when a class of 9 was graduated. The dean, Dr. Thomas C. Phillips, assisted the president, Dr. A. Hamilton Levings, in conferring the degrees. It was announced that a large free dispensary would be established by the college on property now owned by the institution on Reservoir Ave., adjoining the college buildings.

GENERAL.

Another State Journal Established.—The first number of *The Journal of the Oklahoma State Medical Association* was issued the first of the month. It contains an account of the recent meeting of the state association, the address by the president, the proceedings of the house of delegates, and a full roster of the members of the state association, with a list of the county societies and officers, as well as a number of original articles, case reports, news items, etc. The journal is edited by the secretary of the state association, Dr. Eugene O. Barker, Guthrie, who has as his assistants the board of councilors of the state association. This journal will certainly prove of great assistance to the association in carrying on its work in Oklahoma, and will be of great value to the members. The new journal is issued in magazine form, 6½x10, and typographically is a credit to the association.

Pan-American Congress Routes.—Dr. Ramon Guiteras, secretary, 75 West Fifty-Fifth street, New York, announces these routes to and from the Fifth Pan-American Congress at Guatemala, Aug. 5 to 10, 1908: *New York by train to New Orleans;* thence by United Fruit Company steamer to Puerto Barrios on the Gulf; thence by train to Guatemala City, $56, plus the price of food and sleeper on train to New Orleans. Time, seven days. *From the Middle West*, rates and time about the same as above. Steamers leave New Orleans for Puerto Barrios Thursday mornings at 10 o'clock. *From San Francisco* by boat to San Jose; thence by train to Guatemala City, $76.50. Time, eleven days. *Return trips*, by the same routes and at the same expense as above; or by train from Guatemala City to San Jose; thence by boat to Salina Cruz, a Mexican and Pacific port; thence overland to City of Mexico. Cost, $53. Or: From City of Mexico to New York entirely by rail, including berth, $80. Total cost from Guatemala City to New York City, $133. Probably the same to the middle west. Or: From City of Mexico to Vera Cruz, $10; thence by Ward Line Steamer to New York, stopping at Yucatan and Cuba, $60. Total cost from Guatemala City to New York City, $123. Hotels at Guatemala charge $2 and $4 a day. The Capitol at Guatemala is situated on a plateau, one mile above sea level. August is the time of year known as the "cunicula," when there is no rain and the heat is not as great as in our own southern states.

FOREIGN.

Plague in China.—Vice-Consul Baker reports that plague has become epidemic at Amoy. This disease is also present in Hongkong.

Quadricentennial of Madrid University.—Preparations are being made in Spain to celebrate on an extensive scale the four hundredth anniversary of the founding of the University of Madrid, Oct. 18, 1508.

Medal for Rubner.—The professor of hygiene at Berlin, Dr. Max Rubner, has been awarded the Liebig gold medal by the Bavarian Academy of Sciences for what he has done for veterinary science. Rubner's research was on the metabolism of the higher animals, and it unexpectedly developed some new points of view for the proper feeding of cattle.

Physician Beloved by a Community.—The *Gazzetta degli Ospedali* relates that the entire population of the town of Stiava, in the province of Lucca, Italy, gathered recently at the town hall to protest against the removal of the district physician (medico condotto) who had been ordered to another point. He had endeared himself to the community by fifty years of service, and the district was in a tumult until the order was countermanded.

Memorial to Annandale.—A reference to the memorial to the late Dr. Annandale, professor of clinical surgery in the University of Edinburgh, appeared in THE JOURNAL, May 9, 1908, page 1535. A sum of $1,160 has been subscribed and $840 remains to be found. Subscriptions may be forwarded

to Dr. H. M. D. Watson, at 13 Rutland Square, Edinburgh, secretary and treasurer to the committee. The subscription list will close on July 31.

Medical Study Trips Abroad.—The Italian Society for Climatology and Physical Therapy has organized an educational excursion to some of the Italian watering places, starting at Milan this week. The eighth German medical study trip will include a visit to the Canary Islands. It is in charge of Professor von Strümpell, of Breslau, and will leave Hamburg September 1. A large party of French physicians recently visited London on the occasion of the inauguration of the Franco-British exhibition.

Zaufal Retires.—At Prague, May 23, the clinic for diseases of the ear celebrated its thirty-fifth anniversary, and at the same time, Prof. E. Zaufal retired from its leadership. Zaufal founded the clinic in 1873, and it has always taken a leading place in surgery of the ear. He is said to have been the first to make bacteriologic examination of middle ear affections and to operate in otogenic sinus thrombosis. He is now 71, and the occasion proved an ovation from scientific societies, and the profession generally, in the German-speaking countries. It is described in the *Prager med. Wochenschrift*, June 4. Zaufal was one of the founders of this journal thirty-three years ago.

Decisions of the Prussian Medical Tribunal of Honor.—Among the recent decisions is one acquitting a physician of unethical conduct when he increased the amount of his bill, as it was returned to him by the patient for specification of details. The total was not exorbitant. In another case a surgeon found that no dressings had been supplied for the operation he was performing, and he made a caustic remark on the bad management of the director of the hospital in his presence. This case was dismissed as trivial. In another case a physician wrote on his certificate for a victim of industrial trauma: "If Dr. X says that there are no symptoms on the part of the nervous system, he either overlooked this striking symptom-complex or did not wish to see it." The court regarded the last seven words as a serious insult to another physician, and imposed a corresponding penalty, although conceding that scientific criticism of the certificates of other physicians is allowable.

The Irish Medical Association.—The annual meeting of the Irish Medical Association was held in Dublin, June 10, with Prof. J. S. McArdle, vice-president, in the chair. Sir William Smyly, the incoming president, in his address referred to the progress being made in the campaign against tuberculosis, and mentioned especially the work done by Lady Aberdeen. In regard to his own specialty of midwifery, he pointed out that improvement is needed. The old types of practitioner and midwife have passed away, and those now engaged in the work are fully alive to their responsibilities. But even now, he said, the average mortality of childbirth is nearly double that which exists in well-managed hospitals. He recommended practical clinical examinations in lying-in hospitals and regular attendance at these institutions. He expressed the opinion that the midwives act would prove a beneficial measure to poor women in Ireland who are dependent on midwives for care during labor.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, June 13, 1908.

The Sanitary Work of the Port of London

The work of the Port Sanitary Committee of London in a single year is considerable. For its performance there are a medical officer, five assistant medical officers, three food inspectors, eight sanitary inspectors, and a large staff of nurses at Gravesend Hospital. The work of preventing disease from entering London by the river goes on day and night. Last year 37,000 visits of inspection were paid—18,000 to vessels from foreign ports and 19,000 to "coastwise" craft and 252 cases of infectious disease about to enter the port were detected. A constant war is waged against rats. Nearly 53,000 were destroyed last year—15,000 in the docks and 38,000 on vessels. Dr. Williams, the principal medical officer, in his report for 1907 makes the interesting statement that scurvy has practically disappeared from the mercantile marine. He attributes this to the fact that voyages are shorter and that better methods of preserving food are adopted. An important branch of the port authority's work is the seizure and destruction of unsound food. Nearly 3,000 tons of food were condemned. This included 3,000 carcasses of mutton, 5,000 packages of fruit, 1,000 chests of tea, and 7,300 eggs, besides rabbits, fish, game and vegetables. The cost of the sanitary administration in the year was $50,000.

The Crusade Against Tuberculosis in Ireland.

The crusade against tuberculosis in Ireland has been described in previous letters. The most important step was the founding by Lady Aberdeen, in 1907, of the Women's National Health Association to arouse the women of Ireland to the fact that each year almost 12,000 of the people die of consumption. She organized the tuberculosis exhibition and its success was so great that when the time came for it to start on a tour through Ireland so many towns asked for it that two exhibitions had to be prepared—one for going north and the other south. Up to the present these exhibitions have visited 60 towns and over 700,000 people have attended them—about one-sixth of the population of Ireland. The question may be asked, will all this produce any lasting benefit? Already it has done so. In Dublin a system of home nursing for consumptives has been introduced by means of the cooperation of the medical staffs of the hospitals and the Women's National Health Association. The nurses teach the patients and their friends the ordinary measures for preventing the spread of the disease—the importance of thorough ventilation and cleanliness. They also advise the best dietary and, in many cases, assistance is given in obtaining eggs, milk, meat, etc. Many other towns are following this example. In consequence of the educative effect of the exhibitions guardians of the poor and urban councils are putting up chalets, sheds, etc., in which tuberculous patients can be treated. These sheds are inexpensive, and being erected on the grounds of the hospitals, their cost of keeping is small.

The Supply of Male Nurses.

A want has long existed of a sufficient supply of male trained nurses for cases in which the female nurse is undesirable or objected to by the patient. This want has been filled by the "Army and Navy Nurses Cooperation," which was founded last year with the object of supplying well-trained nurses and sick attendants of good character, at the same time providing employment for retired non-commissioned officers and men of the nursing section of the Royal Army Medical Corps and of the Sick Berth Staff of the Navy. In explaining the objects of the institution Sir Frederick Treves said that a large section of the public held that a considerable number of patients who were now nursed by women should be nursed by men. But it was difficult to obtain trustworthy male nurses. They could only come from one course of training—the great naval and military hospitals, where a first-class course of instruction was given. The money earned by the nurses will be handed to them minus a small commission which is so small that it does not pay the working expenses of the institution.

A Coroner on Operations.

Coroner Troutbeck, who has aroused great animosity in the profession by calling in a pathologist in almost all the cases in which he orders a necropsy, and ignoring the local physician, now finds himself in conflict with one of the leaders of the profesion, Sir Victor Horsley. Troutbeck held an inquest on a woman who died after the removal of a tumor from the brain, and he summoned this world-famous surgeon who was the operator. Sir Victor Horsley said that the case was such an ordinary one that he could not understand why an inquest was held. The coroner replied that, owing to the advance of surgery, operations were much more frequent than they used to be. Clearly they were, to some extent, a cause of deaths and came within the Coroner's Act which made inquests imperative in cases of deaths due to violence. Sir Victor Horsley pointed out that if this were so, 10,000 inquests would have to be held annually. In his remarks to the jury, the coroner said that a considerable proportion of deaths, which in great part were due to operations, were never reported to the coroner. They were certified and, owing to the system of certification, were accepted. As a result, the public were in complete ignorance as to what proportion of deaths were accelerated by operations. This was a serious matter for which a legal remedy was required. He did not intend to let the matter stand. He regarded it as extremely important from the public point of view, and in these matters the coroner represented the public, that such cases should be inquired into. They could leave these questions to no profession, however honored or however skilled. In the case before the court he directed that a proper verdict would be accidental death, if the jury were satisfied that the operation was justifiable and that all due care had been taken. Such a verdict was returned.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, June 12, 1908.

The Late Professor Hoffa and the Chair of Orthopedics.

As has been announced in the American press, Professor Hoffa of the Berlin University died some months ago. He was quite closely related to Americans, as he was born in South America. Four years ago, as is well known, he visited America and was much fêted by his American colleagues, which was not to be wondered at considering his charming personality and his remarkable scientific reputation. At the University of Berlin he was the official representative of orthopedic surgery, the second in this position, as his predecessor, the renowned Professor Wolff, was entrusted with the first professorship for this special branch. It created not a little sensation when the faculty, which of course, included the ordinary professors of surgery, made the proposition to the government that the chair (it is not a so-called regular professorship, but merely an "extraordinary" one) of orthopedic surgery should be permitted to lapse and that the orthopedic clinic and polyclinic should be united with one of the two surgical clinics. The proposal aroused opposition both among physicians and with the government which was supported by the public, especially in the Prussian parliament. The government consequently determined not to grant the request of the faculty, but to call a successor to Hoffa. The first attempt to find a suitable man was a failure. Prof. Friedrich Lange in Munich, a very capable man in his profession, refused a call. As usually happens, considerable concessions were made to him by the Bavarian government in order to retain him. He was made a professor in ordinary, i. e., a full member of the faculty, whereas, hitherto he, like Hoffa, had been only a professor extraordinary, and did not belong to the official body of the faculty, thus occupying as it were the position of a professor of the second class. This is the first instance in Germany of the advancement of orthopedic surgery to the dignity of a full professorship. But it will doubtless soon find imitators. It is still uncertain who will be called to Berlin in place of Lange. So far as I know the government has at present in view privat-docent Dr. Wullstein of Halle. The teaching position will not be definitely occupied during the summer but will be held in the interim by a former assistant of Hoffa. Such temporary occupation of ordinary or extraordinary professorships is now more common than formerly in our universities, and more common than should be the case. Even the regular professorship of pharmacology in Bonn, where Professor Binz has retired on reaching the age limit, as well as that in Marburg and in Göttingen are at present temporarily filled.

Cremation in Prussia.

Cremation has hitherto not been permitted in Prussia. There are in Germany only fifteen institutions for burning bodies, so-called crematories, in Hamburg, Heidelberg, Gotha, Jena, etc. At Hagen, in Westphalia, a local society has erected a crematory, but the use of it has been forbidden by the police. As announced in the political press a legal regulation of the practice is to be instituted with a favorable settlement of the question.

The Virchow Monument.

The matter of the Virchow monument has taken on a tragico-comic character. As is well known, the plan was made in 1902, shortly after the death of the great master, to erect a monument in a public square in Berlin. For this purpose a competition was started by the committee in the usual way which resulted in a number of designs for the monument being submitted. The jury, two years ago, awarded the first prize to the design of a talented sculptor, and gave him the right to erect the monument. The design, according to the opinion of many people, does not correspond to the requirements expressed in the original plan of the monument committee, viz.: "That the monument should bear witness to the high esteem in which the German nation held the great investigator, even after his death." The design is not a statue of Virchow himself, but introduces as the chief group, a symbolic representation of the lifework of Virchow, in the form of a struggle between a Herculean giant and a fabulous beast, while on a classic pedestal (beautiful in itself), only a small medallion portrait of Virchow was placed. Energetic opposition was made against this design, especially on the part of the Berlin profession. The *Deutsche medizinische Wochenschrift* first took up the work and protested that for a man like Virchow "who abhorred every mystic and symbolic ambiguity, and who represented in the highest degree the exact investigator of nature, a monument is erected on which the personal and peculiar character to be preserved for posterity sinks to a dwindling little ornament, while elevated to the chief place is a group which symbolizes any fact you please from the struggle of the physical or intellectual giants of the world's history." To these, and other protests, the artist gave so much heed that he enlarged the medallion portrait and placed on the pedestal some reliefs that presented Virchow in his character as teacher. Unfortunately the carrying out of the design could not be hindered by the protest, but now a decided check has been interposed. The emperor, who under certain circumstances must give his consent to the erection of monuments in the public squares of Berlin, has expressed himself against the monument in its present form on similar grounds to those taken by the *Deutsche medizinische Wochenschrift*. One can not agree with all the views of our emperor on art and many innovations in the municipal art of Berlin, lacking in beauty, are referable to the will of the emperor, but in this case we can only be thankful to him that he is willing to protect us from a monument that would in no way be representative of Virchow. What further course the matter will take, whether the monument will be constructed and erected in some private square of the city (perhaps the Rudolph Virchow Hospital) or not, will be known in the near future.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, June 10, 1908.

Yellow Phosphorus in Matches.

Since the government has published the essential features of the new bill (to be brought before parliament in the autumn), regulating the use of yellow phosphorus in the manufacture of matches, the Vienna Medical Society has appointed a medical committee to investigate into and report on the conditions prevailing in the trade. About 70 per cent. of all matches made in Austria are made of the yellow phosphorus, the majority of the factories being in Bohemia because of the laxity of the law there. Phosphorus necrosis is not seen as frequently now as it was ten or fifteen years ago, but the records show that in Bohemia about 35 or 40 cases have been received annually for the last decade. Among the lower classes it is not unusual for match-heads to be taken internally as an abortifacient, and many cases of so-called attempted suicides by phosphorus poisoning are really the result of attempted criminal abortion. In Vienna alone the statistics show that 791 females and 80 males have, within the past ten years, attempted to kill themselves by eating match-heads. The mortality is high, no fewer than 340 having succeeded in killing themselves. The result of the committee's investigation was that there seems to be no positive way of preventing phosphorus necrosis except to prohibit the use of yellow phosphorus and substitute the amorphous form of the chemical.

Resignation of Professor Toldt.

Professor Karl Toldt, the famous anatomist, intends to resign his position as director of the second anatomic institute because his research and literary work take all his time. Toldt is the author of many text-books on anatomy, the best known among them being his handbook of anatomy which he wrote in collaboration with Langer. One of his latest books is the "Atlas of Anatomy" which is a departure from the type usually seen. Professor Toldt is now engaged in completing his great work, "Anthropology," and as he is now 68 years old he does not wish to delay his self-appointed task longer.

Medical Council Conflicts with a Sick Benefit Society.

The system of sick-benefit societies (*Krankenkassengesetz*) which makes the physician do much work for small remuneration has not hitherto been successfully fought in Austria because of the lack of proper organization on the part of the profession. The medical council of Vienna, a representative body equipped with certain disciplinary powers, recently ordered that a newly formed sick benefit society of bank clerks be boycotted by medical men. The sick benefit society appealed to the courts on the ground that the existence of sick benefit societies is required by law and the action of the medical council prevented the club from complying with the law. The court upheld the contention of the sick benefit society and its decision can not be appealed from. This occurrence has aroused the profession so that the Society to Promote the Economic Interests of Physicians, which was founded about a year ago, has increased its membership to such an extent that a boycott can now be maintained without fear of any court being able to interfere.

Pharmacology.

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.

Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.

CLEVELAND, OHIO.

(*Continued from page 2146.*)

XV. SOME STUDIES IN BOTTLED PSYCHOTHERAPY.

Great is the influence of mind over the body! Evidently, though, its potency of suggestion can be greatly enhanced by the simple process of marketing it in bottles; enhanced to the degree that it controls, not only the body, but also bacteria—and, even ferments. How else can we explain the testimonials of the psychic digestants and psychic antiseptics—when it comes to the psyschic cardiac tonics, however, this simple explanation fails.

I. PSYCHIC DIGESTANTS.

In THE JOURNAL, Feb. 2, 1907, page 434, the Council exposed the absurdity of liquid mixtures of digestive ferments. In the same and succeeding issues, the experimental evidence was quoted and on February 9, the statements of text-books were contrasted with the claims made for these preparations. In THE JOURNAL, March 16, 1907, the Council reported that Lactopeptine, even in powder form, contains no pancreatic ferment, and only a small amount of pepsin. This result was confirmed by Prof. Charles H. Miller in THE JOURNAL, March 23, 1907. Indeed, all this had been anticipated by Prof. Emil Scheffer in 1876.

But profitable falsehoods die hard—which is the reason for again referring to these facts. The reply of the Lactopeptine manufacturers to the Council was the bald assertion that "the ferments referred to exist in the preparation as stated in the formula." Toward the profession, they have adopted a somewhat different tone, implying that the attitude of the Council is mere theory, and that Lactopeptine has "convincingly demonstrated, beyond all question, its practical value." They take pride in contrasting "theory" with "common sense." This is somewhat of a reflection on the acumen of the clinical authors who have condemned these mixtures—Boardman, Reed, Potter, Stevens, Yeo, Butler, Hemmeter, Gilman, Thomson, H. C. Wood, Crofton, Culbreth, and others.

Even if there were this difference between "theory" and "common sense," would it not be well to look for the simplest explanation, before resurrecting or resynthetizing pancreatin from its proteolytic cleavage products by the mysterious vital activity of the intestine? Many patients with digestive disorders doubtless improve under Lactopeptine—*plus* this, that and the other. But then, do they not improve under this, that and the other—*minus* Lactopeptine? I have even heard of digestion being improved by mere attention to diet, without any drugs; I have heard of the (peptic) juice being increased by pleasant tasting substances—and Lactopeptine Elixir does taste pleasant. I have also heard of amulets, and of psychotherapy!

The demonstration of a ferment has thus far been considered as belonging to the domains of chemistry; the promotors of Lactopeptine and the inventors of nucleoenzymes would transfer it to the domain of psychology.

II. PSYCHIC ANTISEPTICS.

What a fine antiseptic odor and taste are possessed by thymol! After comparing the odor and taste of a saturated solution of thymol with a 5 per cent. solution of phenol, or a 1 per cent. solution of corrosive sublimate, could one doubt for a moment which is the most active? Evidently not, for thymol, plus small quantities of boric and benzoic acid, under the name of Listerine, sells at a dollar a bottle. It is really too bad that bacteria can not recognize a superior antiseptic as well as the nose—for, according to the bacteriologic tests, as quoted by Wood, four hundred and ninety-five dollars' worth of Listerine has the antiseptic action of a cent's worth of corrosive sublimate; or fifteen dollar's worth of Listerine equals a cent's worth of carbolic acid.

III. PSYCHIC CARDIAC TONICS.

Thanks to the unique discoveries of the eminent pharmacist of St. Louis, Mr. Sultan, and of the eminent exploiters of alkaloids (and a few other things) the Abbott Alkaloidal Company of Chicago, the treatment of heart-disease has been much simplified. *Cactus grandiflorus*, the famous Mexican plant, contains an inactive-active principle, isolated in pure form as an impure extract, which has the most remarkable actions on the human heart. Should the heart be too slow, cactus quickens it; if the heart is too fast, cactus slows it; should the heart be too weak, cactus strengthens it; if the heart is too strong, cactus weakens it; does the heart wobble, cactus steadies it; if the heart is normal, cactus does not meddle with it. No need to make a diagnosis—whatever is wrong or right with the heart, cactus fixes it.

The field of usefulness of this remarkable drug is being constantly extended. As the pellets or granules consist almost entirely of sugar, and are absolutely harmless in doses of one hundred or more (see THE JOURNAL, Sept. 21, 1907, page 1023; and March 21, 1908, page 956), they might be useful as an infant food.

A further property of this remarkable drug is that its action is confined to the human heart. This also opens up a new field for the drug in ethnologic research.

N. B.—A definite diagnosis of the cardiac lesion should not be made, since this interferes materially with the efficiency of cactus. Please refer to the title of this paragraph.

(*To be continued.*)

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.]

UNOFFICIAL PREPARATIONS OF HYDRASTIS (GOLDEN SEAL).

W. A. PUCKNER.

In the price-lists issued by most manufacturers of pharmaceutical products there are to be found listed under fluidextracts, the following preparations of golden seal (hydrastis): "Golden seal U. S. P.," "Golden seal, aqueous," "Golden seal, colorless." As the term, "fluidextract," or "fluid extract," designates a class of pharmaceutical preparations of which 1,000 c.c. represent 1,000 gm. of the drug, the several golden seal preparations should be of the same drug strength. It is difficult, therefore, to understand why these preparations should differ so widely in prices. Thus, a recent price-list (Ray Chemical Company) quotes them at $3.60, $2.75, and $1.25 a pint, respectively, in the order named above.

The price-lists of some manufacturers shed light on this subject to some extent, at least. Thus H. K. Mulford Co.'s catalogue contains under fluidextracts, "Hydrastis U. S. P.," "Hydrastis, Aqueous (without alcohol)," and "Hydrastis, Colorless (non-alcoholic)," but a foot-note explains that the last preparation is one of those which "differ from fluidextracts in that they are not made 1 gm. to the c.c." So also the price-list of Parke, Davis & Co., which quotes "Golden Seal," "Golden Seal, Aqueous" and "Golden Seal, Colorless," contains an explanatory note which states that "Golden Seal, Colorless" does not represent the crude drug minim for grain.

On the other hand, the price-list of Hance Bros. & White contains an explanatory note which leads to the inference that their golden seal preparations are all of the same strength, thus:

"The Golden Seal used in our preparations is assayed to the standard of 2 per cent., white alkaloid Hydrastin, this being the alkaloid which produces the characteristic physiologic effects.

"We list three Fluid Extracts: Golden Seal, U. S. P., Golden Seal, Aqueous, and Golden Seal, Colorless. Fluid Extract Golden Seal, U. S. P., contains resinous matter and will not make a clear

solution with water. Fluid Extract Golden Seal, Colorless, contains only the white alkaloid Hydrastine in an aqueous solution and is especially prepared for medication of the genito-urinary mucous membrane. It makes clear solutions with water and does not stain linen."

Yet the preparations are offered, respectively, at $4.50, $3.75, and $3 per pint.

Evidently, therefore, there is something radically wrong in the system which lists under fluidextracts, Golden Seal, Aqueous and Golden Seal, Colorless. To investigate the matter further, the products of a number of manufacturers were purchased in the open market and examined.

GOLDEN SEAL, AQUEOUS.

The table below gives the descriptions as they appear on the labels of the products supplied by the manufacturers and also the percentage of the alkaloid hydrastin which they were found to contain when examined by the process of the U. S. Pharmacopeia and by a modification of the official method (Method B). The results of the assays by the latter method, as has been explained elsewhere,[1] are somewhat higher than those obtained by the official method. The latter determinations were made, and the results are recorded only as a verification of the values obtained by the first, the official method. It should be remembered that the official strength of fluidextract of hydrastis is 2 gm. alkaloid to the 100 c.c., whereas, the preparations mentioned below varied from 0.58 to 1.79 gm.

GOLDEN SEAL AQUEOUS.

No.	Firm.	Title on label.	Claims made.	Grams of hydrastin in 100 c.c. of preparation. By U. S. P. Method	Grams of hydrastin in 100 c.c. of preparation. By Method B.
1.	Hance Bros. and White.	"Fluid Extract Golden Seal aq."	"The irritating resin of golden seal is eliminated and only the alkaloid retained."	1.43	1.49
2.	Eli Lilly & Co.	"Fluid Golden Seal (Non-alcoholic)."	"The resin and other inert matter is eliminated while the hydrastin and berberin are retained in natural combination, 1.25 gm. hydrastin in 100 c.c."	1.09	1.16
3.	H. K. Mulford Co.	"Fluid Extract of Hydrastis aqueous."	"Represents the medicinal properties of hydrastis but excludes the resinous extractive."	0.58	0.64
4.	Parke, Davis & Co.	"Fluid Golden Seal, Aqueous."	"Represents the medicinal properties of hydrastis. The resinous extractive has been excluded." "Standard, 1 per cent. hydrastin."	0.93	0.95
5.	Ray Chemical Co.	"Ray's Fluid Ext. Golden Seal non-alcoholic."	"Represents the medicinal properties of hydrastis. The resinous extractive has been excluded."	0.77	0.82
6.	Schieffelin & Co.	"Aqueous Fluid Extract of Hydrastis."	No statement[2] except "contains no alcohol."	1.31	1.35
7.	Sharp & Dohme.	"Fld. Extr. Golden Seal Aqueous."	"Each cubic centimeter represents 1 gram . . . of Golden Seal."	1.50	1.62
8.	Frederick Stearns & Co.	"Fluid Extract Hydrastis Aqueous."	"No claims made.	1.79	1.79
9.	Truax, Greene & Co.	"Fld. Ext. Golden Seal without alcohol."	"Contains all the native principles of the drug except the inert, gummy and resinous matter. . ."	1.04	1.10
10.	Wm. Warner & Co.	"Fluidextract Golden Seal without alcohol.	No claims made.	1.26	1.35

1. Pharmaceutical Review, May, 1908, p. 132.

2. In Schieffelin & Co.'s prices current of March 30, 1907, it is stated that "Hydrastis, aqueous" is standardized to U. S. P. strength. On corresponding with this firm it appeared that the sample analyzed was of old stock, of which Schieffelin & Co. said: "None of the old stock should have been sent out subsequently to the issuing of the price list, and we regret to find that a few liters of what we had on hand were sent out. Therefore, we have no doubt that your analytic results are correct, and we can only express our mortification that our oversight should have put us in this position." Analysis of a new specimen submitted showed the amount of alkaloid present as represented—that is of standard U. S. P. strength.

The above table shows that, with one exception (No. 8), the "non-alcoholic," "aqueous" hydrastis preparations examined should not be designated as fluidextracts since they do not contain the amount of the alkaloid hydrastin which the Pharmacopeia directs for fluidextract of hydrastis (2 per cent.). Only one product, that of Stearns, approached the alkaloidal strength the official fluidextract. In reply to an inquiry, Frederick Stearns & Co. claimed that the preparation was made in April, 1907, and at that time assayed exactly 2 per cent. hydrastin.

Two firms, Eli Lilly & Co., and Parke, Davis & Co., do not use, on the label, the word "fluidextract," but instead, call their preparations, respectively, "Fluid Golden Seal, Non-Alcoholic," and "Fluid Golden Seal, Aqueous." These firms also state the amount of alkaloid which these preparations contain, viz., 1.25 per cent., and 1 per cent., respectively, and the examination confirms these claims in a general way.

The results of the analyses were submitted to the several firms interested who were requested to state how these results agreed with those obtained by their own chemists. The replies received, indicate that either the preparation is made and sold without control of its alkaloidal strength or, if assayed, no attempt is made to meet the official standard for fluidextract of hydrastis.

In brief, this examination demonstrates that few of the so-called "non-alcoholic" or "aqueous" fluidextracts of golden seal, deserve the title, "Fluidextract." It also indicates that, in addition to the claim that the inert constituents have been removed, equal prominence should be given to the fact that, to a large extent, the chief active constituent also has been removed. The replies of the manufacturers generally indicate that being an unofficial preparation, little attention is paid to its strength (something on the order of the "eggs good enough for custard," of Mr. Peck's illustrious son); but they also show a willingness to improve the quality of the product or to label it properly.

GOLDEN SEAL, COLORLESS.

On the labels of the trade packages of the so-called "Golden Seal, Colorless" preparations, the following descriptions appear:

Hance Bros. & White: "Liquid Golden Seal, Colorless." "One fluidounce represents one and one-quarter grains(0.081 gm.) hydrastin."
"This preparation is simply a solution of the White Alkaloid of Hydrastis Canadensis in approximately the proportion in which it exists in a prime quality of the drug—twenty grains to the pound—and without the addition of any ingredient intended to increase its action."

Eli Lilly & Co.: "Liquor Hydrastin."
"This preparation, frequently called 'Colorless Hydrastis,' contains the colorless medicinal principles of Golden Seal."

H. K. Mulford Co.: "Fluid Hydrastis (Colorless)."
"Each pint of the fluid contains 20 grains of white alkaloid, the only valuable constituent of Hydrastis."

Parke, Davis & Co.: "Fluid Golden Seal, Colorless."
"Each fluidounce of this fluid contains 1¼ grains of Hydrastin, the white alkaloid of Hydrastis (Golden Seal)."

Ray Chemical Co.: "Ray's Fluid Extract Golden Seal (Colorless)."

Sharp & Dohme: "Fluid Golden Seal, Colorless."
"Each pint contains 20 grains Hydrastin, White Alkaloid, the principal and most valuable constituent of Golden Seal."

F. Stearns & Co.: "Fluid Golden Seal (Colorless)."
"Each fluidounce of this preparation contains 1¼ grains of Hydrastin (White Alkaloid), to which, recent investigations have shown, the valuable properties of Golden Seal (Hydrastis) are due."

Truax, Greene & Co.: "Liquid Hydrastin."
"Fluid Golden Seal, Colorless."
"One pint of this solution contains an amount of the 'White Alkaloid' Hydrastin equivalent to that contained in one pound of fresh Golden Seal root of average quality.."

H. K. Wampole & Co.: "Fluidextract Golden Seal, Colorless."
"Each pint contains, in a non-alcoholic menstruum: Hydrastin, 20 grains."

Wm. R. Warner & Co.: "Fluidextract Golden Seal, Colorless."
"Each pint contains 20 grains Hydrastin."

The above shows that only a few firms use the word "fluid extract" on the label; nor, with one or two exceptions, is any attempts made to make it appear that the preparation approaches fluidextracts in strength. In general, the labels show that they are weak solutions of salts of hydrastin. While the fluidextract of hydrastis contains 2 per cent. of alkaloid, these preparations contain less than 0.3 per cent.

The statement made by Truax, Greene & Co. that one pint contains an amount of hydrastin equivalent to that contained in one pint of fresh golden seal root is, to say the least, misleading. Casual reading gives the impression that this preparation contains an amount of alkaloid equivalent to that prescribed for the official fluid extract. The word, "fresh," however, which probably will, and perhaps is intended to escape the reader, is of considerable importance in this case. According to J. U. Lloyd[3] and Alice Henkel[4] every 100 pounds of fresh golden seal, when dried for the market, yields only 28 to 30 pounds.

Since the U. S. Pharmacopeia requires that golden seal contain 2.5 per cent. hydrastin, the "fresh" drug should contain only 0.6 per cent. The preparation of Truax, Greene & Co., however, does not contain even this amount; examination[5] indicating that it contains less than 0.25 per cent. of hydrastin. To a considerable extent, the same criticism applies to the product of Hance Bros. & White, who state that the alkaloid is contained in their liquid Golden Seal, Colorless, "approximately in the proportion in which it exists in a prime quality of the drug." This is followed by the acknowledgment that it contains 20 grains to the pound. Hance Bros. & White apparently feel confident that physicians are quite unfamiliar with the alkaloidal content of drugs!

THERAPEUTIC INDICATIONS.

In conclusion, the following statements taken from the label for these preparations show the extent to which some manufacturers go in their desire to tell physicians (and others?) the various uses to which this remedy may be put:

"It is indicated in atonic dyspepsia, gastritis, and in the treatment of catarrhal affections of the mucous surfaces; also a wash in conjunctivitis and an injection in gonorrhea, vaginal leucorrhea and inflammation and ulceration of the mucous lining of the bladder. It is free from all staining properties. When used as a wash or injection, it should be diluted with from four to twelve times its volume of water." (HANCE BROS. & WHITE.)

"Non-irritant, permanent, will not stain, contains no alcohol. Will be found useful wherever Golden Seal is indicated."

"Medicinal Uses: It is recommended for various inflammatory and catarrhal conditions of mucous membranes; as an injection in gonorrhea, leucorrhea, and other catarrhal affections of the genito-urinary tract; also in inflammatory conditions of the nasal and air passages. Internally is employed in fermentative dyspepsia, malarial troubles, biliousness, gastric catarrh, gastritis, etc. May also be used in combinations, according to the discretion of the prescribing physician." (STEARNS & CO.)

The examination demonstrates that these unofficial preparations, while listed and sold more or less directly under the titles of fluidextracts, do not comply with the standard adopted for the official fluidextract of golden seal; the results may serve as a suggestion to physicians to make some attempt to learn the composition of unofficial remedies. The analyses emphasize the fact that, with hydrastis as with many other drugs, as soon as the physician leaves the official preparations he is dealing with unknown quantities.

RESEARCH LABORATORIES OF MANUFACTURING PHARMACISTS.

Valuable Work in Standardizing and Investigating Drugs.

The advance of pharmacy and therapeutics has been due in a considerable measure to the enterprise of certain manufacturing pharmacists who have conducted research laboratories from which genuine scientific discoveries have emanated. In this work the American pharmacist has not been behind his continental brother. It is gratifying to observe that this effort to assist scientific progress still continues. Two contributions in the *American Journal of Pharmacy* (January and March, 1908), are striking examples of the practical value of such work. The first emanates from the biologic laboratories of Parke, Davis & Co., and consists of a study of *Cannabis sativa*, grown in the United States and Mexico (*Cannabis Americana*), as compared with *Cannabis sativa* of the East Indies (*Cannabis Indica*). It is generally believed that American hemp is practically worthless for therapeutic purposes and that one must employ the true cannabis from India in order to obtain physiologic activity. In order to test the value of American grown hemp, Drs. E. M. Houghton and H. C. Hamilton compared the two drugs by administering the extract in a standard dose to especially selected dogs. They conclude that *Cannabis sativa*, when grown in various localities of the United States and Mexico is fully as active as the best imported Indian-grown *Cannabis sativa*.

The second contribution is an attempt to solve the problem of the standardization of the preparations of digitalis. For this purpose two different methods have long had their special advocates, some championing the chemical method, and others concluding that, because the essential active principle of digitalis is not fully known, nothing could be expected from the chemical method and that the method of physiologic testing must be resorted to. Dr. E. D. Reed and C. E. Vanderkleed, working in the research laboratory of the H. K. Mulford Company, have attempted to compare and combine the two methods. The question of physiologic standardization of digitalis, which is described by Dr. Reed, has resolved itself into the specific action of the drug on the heart of the frog. Frogs were treated with digitalis in varying quantities, and that amount of digitalis which would kill a frog of a definite weight, leaving its heart in systole, was considered to be an index of the physiologic activity of the preparation. This method, however, is considered by Dr. Reed to be unsafe since it is, after all, only a toxic effect and amounts to nothing more than determining the lethal dose. Reed uses, instead, the lethal dose for a guinea-pig and adopts, as a standard, the amount which will kill a guinea-pig of 240 grams weight in from 1½ to 2 hours, and he uses this amount for comparison with the chemical method of testing based on the amount of digitoxin in the drugs.

Vanderkleed, in discussing the objections to the chemical method of standardization admits that it is not proved that digitoxin represents the therapeutic activity of digitalis in its entirety. He maintains, however, that it may properly be taken as a guide for standardization if it can be shown that the physiologic activity runs parallel to the amount of digitoxin so that it may afford a reliable means of approximate estimation. He cites other cases in which it has been agreed to use the amount of an ingredient which is not the sole active principle. Thus, nux vomica is estimated by the amount of strychnin which it contains, although strychnin forms only one of the constituents to which nux vomica owes its activity. Acting on this principle he endeavored to ascertain the relation between the amount of digitoxin and the activity of the digitalis as determined by physiologic tests. The results showed that the relative activity could be estimated very closely from the amount of digitoxin, and it is only necessary to fix a standard of digitoxin corresponding to the physiologic unit in order to assay the drug satisfactorily by chemical means.

Vanderkleed made some interesting experiments to determine the rate of deterioration of liquid preparations of digitalis. Watery solutions of digitoxin are found to lose their activity rapidly so that the only stable preparations are hydroalcoholic or those in which a part of the alcohol has been replaced by glycerin. Even the fluid extract deteriorates, according to his experiments, under ordinary trade conditions, at the rate of about 11 per cent. a year.

The standardization of drugs which are to be depended on for definite physiologic effects is an essential for accurate clinical observation and effective therapeutics and should be demanded where possible. Every effort to extend our knowledge in this respect deserves the hearty support of the medical profession. Work of this sort that tends to make more effective the remedies we already have is much more to the credit of the manufacturing pharmacist, and will be more appreciated by the medical profession than the multiplication of formulas of the "shot-gun" order—already too numerous. It is to be regretted that even the firms which we have just had occasion to mention with praise have not always been willing to forego the temporary profit accruing from proprietary mixtures which have little to recommend them. It is to be hoped that the approval of their scientific efforts will lead them to give these efforts the greater em-

3. Drugs and Medicines of North America, vol. I, p. 84.
4. U. S. Department of Agriculture, Bull. 51, part 6, p. 14.
5. See Pharmaceutical Review, May, 1908, p. 132.

phasis and to leave the marketing of nostrums to the pseudo-pharmacal and chemical concerns which have too long humbugged our profession and disgraced American medicine and pharmacy.

Analysis of Nostrums in North Dakota.

It is gratifying to note that the officials of some of the state health boards have realized the true scope and responsibility of the work placed in their hands and appreciate the great injury to public health from the fraudulent manner in which many medicines are advertised and sold. In the eighteenth annual report of the North Dakota Agricultural Experiment Station, the food commissioner, E. F. Ladd, and the pharmacist, L. A. Brown, call attention to the evils arising in connection with the "patent medicine" business. Mr. Ladd says: "The more I have had occasion to look into the subject of 'patent medicines' and their use, the more fully I become convinced of the great fraud that is being practiced. Among the 'patent medicines' there are some possessed of merit, but the greater proportion of those now sold are nothing more than worthless products, often 'dope.'" He also quotes a drug journal to show the attitude of others with regard to some of these products "which claim to be ethical and, therefore, are supposed to be recognized and used under the direction of physicians, but which, in reality, seldom are recommended by physicians of standing."

Mr. Ladd makes the further comment: "By reference to the report of Professor Brown given further on, one will see something of the character of 'patent medicines' which have been sold in this state and have thus far been under examination. Their worthlessness in many cases is clearly indicated. They are often so prepared as to deceive and mislead and make victims of those who use the products. That there is necessity for a more stringent law than any which we now have is clearly indicated, and I can fully endorse the report of Mr. O. C. Beale, who was commissioned by the Australian government to make an investigation of the nostrums sold as 'patent' and proprietary medicines in all English-speaking countries."

Professor Brown's report shows a large amount of good work accomplished during the year. A long list of proprietaries containing cocain is published. Vin Mariani is in this list and receives an exposure occupying over two pages and leading to the conclusion that whatever the claims made by the manufacturers, "according to our analysis of samples of Vin Mariani it *does* contain cocain, and regardless of whether its presence is due to coca leaves or not, it constitutes it a cocain preparation." Evidently hair-spliting distinctions are not very popular at the North Dakota Agricultural Experiment Station.

The results of the analysis of some "dyspepsia remedies" are very interesting. The report states: "Only a few preparations of this nature have been analyzed in this laboratory, owing to a limited amount of time and help trained in drug analysis, but enough has been done here and elsewhere to arouse in our minds the suspicion that there are very few preparations put up as aids to digestion that have any efficacy whatever." Among the preparations analyzed were Vigni and Malt Papaya, Borscherdt's. The first showed no digestive power and the second a slight action on starch, but none on albumin. It is suggested that in the combination of diastase and papayotin in the second preparation the two ferments mutually destroy each other as has been shown to be the case with mixtures which contain both pepsin and pancreatin in solution.

It is to be hoped that we may have more investigations of similar nature by the responsible boards which are equipped to do work in this field. One advantage of work done under public authority not connected with the medical profession is that the suspicion of medical bias is removed and the advice given in such reports as these ought to be of immense value to the people to whom they appeal and who are liable to be misled by the specious advertisements of nostrums which are both an injury to health and a fraud on the purse.

Correspondence

Priority in Regard to Patellar Synovial Fringes.

NEW YORK, June 18, 1908.

To the Editor:—The rapid increase of years renders it hardly probable that I can accomplish much further work of novelty or interest in surgery. Hence, I may be pardoned for calling attention to what I have done in the past in connection with a lesion presented in an able form by Dr. Abbott of Portland, in THE JOURNAL, May 23, p. 1675. He ascribes the recognition and the requisite surgical treatment of an unusual form of joint-locking due to a duplication of the synovial membrane on the under surface of the patella to Dr. Goldthwait, who operated for this condition in 1902. I venture to state that in the *Medical Record* of July 16, 1892, it will be found that I called attention to this lesion and, by a similar procedure to that used by Dr. Abbott, removed the projecting fold in two instances, though I did not then, nor do I now claim to be the originator of the operation or the discoverer of the disease. It was only recognized as a unique affection. R. F. WEIR.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Sentences for Charlatans in the German Courts.

The last number of the *Gesundheitslehrer*, the official organ of the Antiquackery Society, mentions nearly 20 suits brought against quacks, the penalty ranging from fines of $5 to $75 and imprisonment for from two weeks to three years. Among them is L. Bauer, of "antidiabeticum" fame, this being the eighth suit that has been brought against him. One Witte was given a year's imprisonment for treating a woman with cancer and promising to cure her. It says of another, a shoemaker, that he grew tired of working on shoes and determined to take charge of the health of his fellowmen, "and of course he found people at once to trust their health in his hands." He treated a lad with a tuberculous suppurating process in the pelvis and promised his father a cure in six weeks. He applied a plaster cast, never cleaned, but charged $2.50 for each inspection. After the boy's death suit was brought and he was condemned to two weeks of prison, the fourth penalty for the same practices.

Systematic Organization in Kansas City.

The Jackson County (Missouri) Medical Society has taken up systematic methods of organization, following the plan of the Chicago, Philadelphia and St. Louis medical societies, and dividing the county into districts. A representative from each district has been appointed on the general organization committee, thus forming an organization committee of twenty-seven, one for each ward in Kansas City and Independence, and one for each township in the surrounding country. The secretary, Dr. E. L. Stewart, has begun the compilation of a card index of all the physicians of the county, and is endeavoring to obtain personal data regarding all members of the profession in the county. Without doubt, the work in Jackson County will be as productive of good results as that in the other large cities which have adopted this method.

Local Regulation of Nostrums.

Following the movement on the part of the national and state governments for the regulation of the sale of dangerous and fraudulent medical preparations, a number of cities have passed similar local ordinances. Such an ordinance was adopted recently by the council of Huntington, Ind. This example is being followed by a number of other cities in the state. Logansport has just passed an ordinance providing that any itinerant physician or other traveling person desir-

ing to sell any medicine, drug or remedy for use in curing or healing diseases must obtain a license and pay to the city treasurer $50 for each day he intends to remain in the city. Such an ordinance is in every way to be commended, and it is to be hoped that other cities will take the same action. It might be advisable to consider an additional clause prohibiting the sale to the public of any medicinal preparation which had not been examined by the State Board of Health and pronounced safe for public use.

Medical Defense in Wisconsin.

The State Medical Society of Wisconsin, at its annual meeting in 1907, adopted a plan of medical defense which has now been in operation for nearly a year. The *Wisconsin Medical Journal*, May, 1908, contains extracts from reports received from many of the counties, showing that in almost every instance the system has met with general favor and that the members are much pleased with the plan. In only a single county was there any definite opposition, and in this county the year has shown a substantial gain in membership. So far as reported, there has been no loss in membership in any county on account of the adoption of this feature, and this experience is in accordance with that of other state associations which have adopted it.

The best thing about this plan of mutual protection is that, without exception, it has resulted in eliminating those cases which are without justification and which had been incited by lawyers for mercenary reasons. Cooperative defense has made systematic exploitation of the medical profession not only unprofitable, but inadvisable and impossible. The few cases which have some possible justification are easily adjusted and settled. The principle of cooperative medical defense as a function of state society activity seems now to be well established, and it is to be hoped that many other state associations will take up this matter and carefully consider it.

Local Physicians' Club.

For over ten years the physicians of New Kensington, Pa., have maintained a local club, composed of the physicians of the city, who are members of the Westmoreland County Medical Society. The club at present includes fourteen out of the fifteen physicians of New Kensington. Weekly meetings are held, which are always well attended. The club has recently taken up the postgraduate course of study with gratifying results. It has its own club room, and hopes in a short time to have the nucleus of a common medical library. The best of feeling and the heartiest cooperation prevails among the local physicians, due principally to their constant association and frequent meetings together.

This organization is an illustration of the necessity in some of the counties of a smaller organization inside the county society for purposes of mutual benefit. In many of the larger and more populous counties, it is practically impossible for all the physicians to assemble oftener than once a month, or, on account of the geographical conditions or railroad arrangements, it is exceedingly difficult for all the physicians of the county to meet in one place. These difficulties have been solved in some counties by the organization of branch or district societies, subordinate to the county society; in others, by the organization of local clubs, which are auxiliary to and limited to members of the county society.

While any tendency toward disintegration or drifting away from the county plan of organization should be carefully avoided, yet such local organizations when properly conducted are an additional incentive to membership in the county society, and can often be of benefit to its members in a way not possible to the larger organization.

The Chicago Medical Society and Its Active Work.

The *Bulletin of the Chicago Medical Society*, June 20, contains the report of the annual meeting of that body held on June 17, which shows in a striking manner the range of work covered by this society, as well as the possibilities of medical organization in the large cities.

Seven years ago the Chicago Medical Society was a single body of about 900 nominal members, confining its work almost entirely to the reading and discussion of scientific papers. To-day it is a highly specialized organization, having 2,259 actual members of the main society, twelve affiliated special societies and fourteen district branches. Instead of one meeting a week, there is now an average of 32 medical society meetings every month in Cook County. Not only has the organization gained in membership, but its practical usefulness has largely increased. A council, composed of delegates from the different component parts of the organization, meets each month and transacts all the business for the society. At the annual meeting, reports were made by the secretary of each of the fourteen branches and of the twelve affiliated societies, as well as by the following committees: Membership, medicolegal, ethical relations, organization, propaganda, patent nostrums, business bureau, contract practice, abuse of medical charities, affiliatqd societies, educational campaign and constitution and by-laws.

The medicolegal committee reported that in the three years of its existence it had not lost a single case. The report of the organization committee showed that 454 applications had been taken during the year, of which 303 had been accepted up to the date of report, and that in the last six years there had been added to the society 1,460 new members. The committee on propaganda reported that 22 public lectures had been given in the Public Library Building during the year, with an average attendance of 140 and a maximum attendance of 350, and that more interest had been exhibited by the public in these lectures during the past year than at any previous time. The committee on business bureau reported that this institution had been in existence for five months and had collected a total of $6,298 for members of the society, earning in commissions for the society $1,279, and that 391 members were now sending their bills to the bureau for collection. The committee on abuse of medical charities reported that during the past year an organization of the free dispensaries of the city had been effected, comprising 27 of these institutions, and that plans were being developed to prevent the exploitation of the medical profession through the misuse of these establishments for the relief of the worthy poor. The educational campaign committee reported that seven meetings had been held during the year between local physicians and druggists for the solution of the proprietary medicine and nostrum situation. The report of the secretary showed the largest annual increase in the history of the society. Thirty-one meetings of the main society were held during the year with an average attendance of 185.

The Chicago Medical Society was one of the first of the large city organizations to realize the trend of the reorganization movement and to appreciate its possibilities. An enormous amount of hard work has been done by its officers and members in the past six years, with the result that it stands to-day as the largest and best organized local medical society in the world.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month.

THIRD WEEKLY MEETING.

Cholelithiasis.

Etiology.

Classification of gallstones, chief constituents. Origin of cholesterin and bilirubin—calcium, changes necessary to their production. Effects of chemical and bacterial irritants, organisms usually found in bile, in gallstones. Effect of stasis of bile. Entrance of micro-organisms (a) by common duct, (b) by blood current, from portal vein. Age and sex. Pregnancy, sedentary life, typhoid fever. Incidence.

Symptoms.

Obstruction of Common Duct: Symptoms of cholangitis. Mechanical effects. Jaundice; intensity, duration. Itching.

Pain. Temperature, chills, "Charcot's intermittent fever." Gastric disturbances. Physical examination. Symptoms of suppurative or ulcerative cholangitis. Association of pancreatitis.

Obstruction of Cystic Duct: Pain, jaundice, tenderness, gastric and intestinal disturbances, presence of tumor. Sequelæ, empyema, atrophy or calcification of gall bladder.

Remote Effects: (a) Stricture of the duct, (b) intestinal obstruction, (c) fistulas.

Amyloid Disease of the Liver.

Etiology: Microbic origin of amyloid degeneration, its occurrence in the body. Sequel of chronic suppurations, necrosis of bones, tuberculosis, pyelitis, syphilis, blood dyscrasias. Tests for amyloid material.

Symptoms: General condition, gastrointestinal symptoms, mental derangements, pain, urine. Physical examination.

Miscellany

Acidosis in Pregnancy.—J. B. Leathes (*Proceedings of the Royal Society of Medicine*, March, 1908), refers to "three groups of papers in which, in Germany and America attention has been called to the significance of the high proportion of the excreted nitrogen that may take the form of ammonia salts in the urine during pregnancy." These groups are represented, respectively, by the papers of Zweifel (*Arch. f. Gynäk.*, 1904, lxxii., 1; 1906, lxxvi., 536), Williams (*Johns Hopkins Hosp. Bull.*, 1906, xvii., 71), and Ewing and Wolf (*Am. Jour. Obst.*, 1907, lv.). Zweifel's consideration of eighteen successive cases of eclampsia lead him to the conclusion that "the acid is produced in the child and causes poisoning of the mother, and is not produced in the mother as a result, for instance, of the fits." Williams regards three remarkable cases (abstracted in this article), of severe vomiting in pregnancy as "cases of toxemic vomiting allied to yellow atrophy, and this latter as a fulminating variety of the same disorder. Other cases of severe vomiting in pregnancy, in which the ammonia coefficient is normal, may be recognized by that sign as of a comparatively innocent type—cases of neurotic or, it may be, reflex vomiting." The cases of Ewing and Wolf, which Leathes regards as affording the "fullest and most valuable set of analyses of the urine in pregnancy," are divided into six groups. These are analyzed, and from a consideration of them Leathes says: "The two types of abnormality are fairly distinct. One is characterized by severe vomiting in the early months with high ammonia coefficients and generally large amounts of undetermined nitrogenous substances, but no renal affection. The cases described by Williams emphasize the gravity of this condition, described as toxemic vomiting, and with their very high ammonia coefficients give further significance to this abnormality of the urine. The other is an affection of the later months, in which the vomiting is secondary to renal complications, a pre-eclamptic condition in which the urine does not commonly have a particularly high ammonia coefficient, though the undetermined nitrogen appears to be very abundant." Leathes then raises the question: "How far are these abnormalities in the urine diagnostic indications of the gravity of the disorder? Do they lie at the root of the malady, as early fundamental symptoms of a disturbance of metabolism of which, it may be, yellow atrophy or conditions of that order of gravity on the one hand, and eclampsia on the other, may be merely the final climax?" He discusses the subject, and concludes that so far as the ammonia figures in the disorders of pregnancy are concerned, before it can be safely maintained that these high figures are a sign in themselves of a toxemia that is likely to prove fatal unless the most active measures be taken, it is necessary to prove that they are not sufficiently accounted for by some of the attendant circumstances of the patient's condition: the low nitrogen content of the absorbed food, the imperfect nutrition due to the incessant vomiting, the loss of alkali in the vomit, aggravated possibly by the requirements of the fetus. The facts that the high figures may occur without any symptom of general disturbance (Ewing and Wolf's cases, 3 to 6), and that profound disturbance may coexist with normal figures (*ibid.*, Cases 10 and 12, the latter fatal), are difficult to reconcile with such a view. In some of the recorded cases acetone is mentioned as having been detected, which is no more than could be expected, and, therefore, the acids associated with acetone were probably present in sufficient quantity to account for some of the excess of ammonia. The valuable data contained in Ewing and Wolf's paper, and the stray observations outside it, point to the necessity of decisive experimental work before their pathologic significance can be positively defined. The other abnormality of the urine, the large output of unknown substances containing nitrogen, is more striking and more suggestive, for this does not appear among the results of mere starvation, as the figures given by Cathcart (*Jour. Physiol.*, London, 1907, xxxv., 500) show. The only substances that have been detected giving rise to variations in the nitrogen in this category are amido-acids, and though, of course, this does not warrant a prejudice as to the meaning of the figures in disorders of pregnancy, if the presence of amido-acids in abnormal amounts were proved, it is possible that some of the abnormal ammonia figures might be explained in that way, and that the tendency to associate the abnormality of the urine with disturbance of hepatic functions, and to regard it with suspicion as a sign of danger from that quarter, would be strengthened. But the author concludes that further definite work on this subject is required before any attempts at interpretation of the phenomena are permissible.

Treatment of Tuberculous Glandular Disease.—A. Robin states that there is only one treatment for tuberculous adenitis, namely, medical treatment based on the following rules: 1. Treatment should be both local and general. 2. Local treatment should include local treatment of all the cavities with which the diseased glands are connected. 3. The glandular lesions may heal spontaneously under climatic or medical aid. 4. When tuberculous adenitis does not heal, it requires further measures, but not surgical ones. 5. Surgical intervention does not protect against recurrence; it exposes to generalization, and it leaves disfigurement. 6. The treatment should leave no disfiguring traces. 7. General treatment includes hygiene as for pulmonary tuberculosis; nutritious food, little meat but plenty of vegetable albumin, especially gluten, and articles like gelatin which oxidize easily and are thus consumed in the place of the tissues; tonics, and hydromineral treatment. He combats the "demineralization" with a powder each day containing:

℞.	gm.		
Magnesii carbonatis	10		gr. iss
Calcii carbonatis	25		gr. iv
Tribasic calcii phosphatis	25	or	gr. iv
Calcii fluoridi	01		gr. 1/6
Saccharii	1		gr. xv

He considers the seashore dangerous for children requiring or having passed through an operation, or when there is a prospect of acute exacerbation or when there is a tuberculous lesion in the lungs, pleura or abdomen or vague pains in the legs suggesting impending meningitis, or neuralgia. He applies locally to the glands compresses soaked in a solution made as follows:

℞.	gm.		
Calcii chloridi	300		℥x
Sodii chloridi Magnesii chloridi		or	
Potassii chloridi āā	15		℥ss
Water	1,000		℥xxxii

He also advises a disinfectant spray to combat any possible tracheobronchial adenitis, with, further, lavage of the nose, throat and ears. He regards the care of the mouth as very important, and he has the teeth brushed three times a day with a disinfecting powder containing calcium carbonate, soap and camphor, followed by a beta-napthol gargle. His lecture on the subject was published in the *Annales de Méd. et Chir. infant*, March 15, 1908.

Prevention of Plague.—The present epidemic of plague is remarkable for its geographic extent although it has not

reached alarming proportions in any country except India. In 1894, there was but one country, China, affected; in 1907, there were 51 in which it had gained a foothold. It appeared in India in 1896, and in 1907 attacked 1,400,000 people in that country with a mortality of 1,200,000. *Public Health Reports* (U. S. P. H. & M.-H. S., May 29, 1908) details the measures to be taken for preventing the disease. The subject is divided into (a) measures to prevent the introduction of the plague into a community; (b) the proper treatment of a community into which the disease has found an entrance. Precautions to prevent the entrance of the disease are directed: (1) Against infected persons; (2) against rats. Quarantine measures should be especially directed to the discovery and detention of ambulant cases and cases of pneumonic plague. The thermometer should be thoroughly used to detect infectious disease among the crew and passengers of incoming vessels. C. S. Braddock recommends the use of coal oil about the shoes, stockings, and leggings to prevent the access of infected fleas. A similar application should be made to floors and furniture after disinfection. Warning should be given against petting stray dogs which may harbor infected fleas. The period of incubation is seven days and the period of quarantine should be sufficient to complete a period of seven days from the last time of exposure to infection. Precautions should be instituted to prevent rats from coming ashore, infected vessels being unloaded by lighters at a distance (one-fourth to one-third of a mile), from which it will be impossible for rats to swim to the shore. The precautions against rats should be extended to fleas also. Fumigation of incoming vessels should be complete and provision should be made for the periodic fumigation of vessels trading with infected ports.

When plague has made its appearance in a locality an active campaign against rats should be instituted, these rodents being shut off from houses and food as completely as possible, all garbage being quickly collected and burned, and the rats poisoned or trapped. Arsenic, phosphorus paste, and carbonate of baryta are recommended as poisons. The kind of poison and the mode of displaying it should be frequently changed. Patients with plague should be removed to a rat-proof hospital and suspects should be segregated long enough to cover the incubation period.

Dead rats should be carefully examined and all precautions taken to prevent rats going from an infected city to vessels lying in the harbor. The ropes connecting the vessel with the wharf should be provided with rat funnels and for a distance of two feet somewhere between the wharf and the opening of the funnels the line should be copiously tarred. Rags should be sterilized or destroyed.

Serious Epidemic of Sore Throat Traced to Milk.—A peculiar streptococcus was found by Ustvedt in the throat in 146 cases, and by others also in large numbers, similar to the bacteriologic findings in the mastitis of a cow in the dairy from which the families involved purchased their milk. The symptoms included high fever and enlargement of the glands, tonsillitis, with or without an easily detached false membrane, although the aspect of the throat was generally scarlatinal. Gastrointestinal disturbances were rare. All the sick had used unboiled milk from this dairy near Christiania. Only one-third of the patients were children. About 208 sickened between March 3 and 7. In most cases the affection subsided in a week, but in the others complications were numerous, including otitis media, ulceration in the tonsils and vicinity, glossitis with the tongue so swollen that it protruded from the mouth, erysipelas, esophagitis, albuminuria, acute rheumatism or pericarditis, in one case hemorrhagic nephritis, in another thrombosis; one woman had febrile gastroenteritis for several days, two days after drinking four glasses of the milk. In one group of 53 patients the remissions and exacerbations of the fever and the glandular disturbances and local complications kept up the trouble in 47 for one or two weeks, for three weeks in 3, and from four to nine weeks in the others. The 6 fatal cases were in infants or the aged except one woman of 47, apparently convalescing; three weeks after the first symptoms pain suddenly developed in the muscles and the temperature rose constantly with death the fifth day from edema of the lungs. The local medical society had a symposium on the "milk epidemic" May 13, reported in the *Norsk Magazin for Lægevidenskaben*, June. The epidemic was remarkable for its virulence in man while in the cow it caused merely a mild local affection. The total number of cases in regard to which the authorities were notified was 548, the notices being sent in by 29 physicians.

Health-Education League Pamphlets.—We have received a package of the booklets of the Health Education series, published by the Health Education League of Boston. These little pamphlets present the first necessary element for all efficient food, whether of mind or body: they are attractive. While all attractive things may not be desirable, and many even may be prejudicial, there can be no question that attractiveness of form vastly increases the probability of further investigation into the underlying nature. Here, too, the popular reader is not likely to be disappointed; for the books present, for the most part, good mental pabulum well prepared. The scope of the brochures may be best gathered from an enumeration of the titles of those already published: (1) Hints for Health in Hot Weather; (2) Milk; (3) "Colds" and Their Prevention; (4) Meat and Drink; (5) Healthful Homes; (6) The Successful Woman; (7) The Boy and the Cigarette; (8) The Care of Little Children; (9) The Plague of Mosquitoes and Flies; (10) Tonics and Stimulants; (11) Emergencies; (12) Microbes, Good and Bad; (13) The Care of Babies; (14) The Efficient Worker; (15) Sexual Hygiene. The prices vary from 2 to 8 cents each copy, or from $1.50 to $5 a hundred. The last one issued, that on Sexual Hygiene, is particularly timely. It carefully avoids saying too much, but what it does say is enough to suggest in what direction those who may require further information may best obtain it. The object of the league is to spread the knowledge of the laws of health among the people through the circulation of sound popular health literature.

Insurance Against Industrial Accidents.—Insurance of workmen against industrial accidents was introduced by law into Holland five years ago. At first the employers and physicians found it hard to reconcile the interests of all concerned, but as time has passed all has been amicably arranged, and the annual reports of the officials in charge of the system now comment in terms of high appreciation on the practical cooperation of the physicians. The first year or so they complained of excessive solicitude on the part of physicians, who were said to exaggerate the effects of the accidents and keep the injured workmen too long on the sick list. The profession took up the matter and discovered that two medical men had given rise to these just complaints, and the names of these two were stricken from the list of physicians eligible for the work. An Amsterdam letter in the *Wiener klinische Rundschau*, May 17, states that physicians have still to learn much in the matter of industrial accidents and their treatment. Functional results accepted as satisfactory a few years ago are no longer so regarded, especially in the matter of fractures. Impaired earning capacity from defective functioning of the limb entails extra expense and the insurance company is correspondingly dissatisfied when functional capacity is not restored. A recent meeting of the Netherlands Surgical Association was devoted to this question, the concensus of opinion being that the aim in treatment is to restore functional capacity, regardless of the original anatomic form of the limb. The best results in the majority of cases are secured by carefully individualized non-operative methods. Operative measures are necessary only in rare instances.

Sanitary Work in Louisiana.—The biennial report of the Special Medical Inspector of the Louisiana State Board of Health (1908) contains much interesting material. The work of the department is divided into the following five sections: (A) Educational; hygienic institute work. (B) Convention work. (C) Office work. (D) Legislative work. (E) Field work. The educational work will be commented on editorially in THE JOURNAL in the very near future. Of the rest, the field work is the most important, and covers an investigation

of yellow fever reports; of variola and typhoid outbreaks; vital statistics; the spread of tuberculosis, particularly among negroes; the extinguishing of an outbreak of yellow fever in New Iberia in 1906, etc. Dengue, bubonic plague, diphtheria, influenza, epidemic cerebrospinal meningitis, dysentery, scarlet fever, and other diseases receive attention. The purity of the milk supply and the danger of house flies as disseminators of disease are dwelt on. Undoubtedly, however, the most noteworthy feature of the report is the Louisiana System of Hygienic Education.

Meat in the Diet and Intestinal Affections.—P. Morsaline of Buenos Aires contributes an extensive article on mucomembranous enterocolitis to the *Semana Medica*, April 23. He protests against the assumption that meat is an important factor in the development of intestinal affections. Argentina is a cattle country and there is an unusual consumption of meat, and yet intestinal disorders are rare. In all his experience he has encountered only a very few cases of appendicitis or enteritis and none in the rural districts, either in his own or his colleagues' experience, and yet the cowboys live almost exclusively on meat. He admits that arthritic individuals are predisposed to such affections as they are subject to chronic autointoxication, and excess of nitrogenous food might be injurious, but individuals of this class mostly inhabit the cities. He adds that the Russian Jew immigrants are pre-eminently neuro-arthritic, and 60 per cent. of the women have colitis. Under other conditions all his observation in a meat-eating country discredits the idea that meat plays a preponderant part in the genesis of intestinal infections.

Neurasthenia from Insufficiency of the Salivary Glands.—Baccarani's experience has convinced him that the salivary glands have an important part in the elimination of toxic products generated in the body, and that their internal secretion is indispensable for the normal functioning of the economy. Absence of this internal secretion is liable to induce a syndrome in which neurasthenia predominates, as in a case he describes in the *Riforma Medica* for July 6. In extreme cases the metabolism may become gravely affected. Zagari has reported a fatal case of this kind, already mentioned in these columns.

Book Notices

AN ABRIDGEMENT OF PRACTICAL MEDICINE AND ALLIED SCIENCES. By J. Candor McLaughlin, M.D. Flexible Leather. Pp. 524. Published by the Author, Kansas City, Mo.

That it is a marvel of condensation to reduce the medical science of the present day with all its allied sciences to the compass of a vest-pocket manual goes without saying. That some important subjects should get squeezed out in the process of compression was to be expected. It is, indeed, surprising that we find so few positive misstatements. Perhaps there is a use for such books, but it is doubtful if they do not do more harm than good. The use of such a manual leads to reliance on its statements and this eventually to the conclusion that the information contained in its pages is sufficient, which would indicate a lower estimate of the scientific standing of practical medicine than any possessed by the laity of to-day. That the perusal of such a book can be of service in preparing for state board examinations as is confidently asserted by the author is a sad commentary on the unpractical character of such examinations.

NEUROGRAPHS. A Series of Neurologic Studies, Cases, and Notes. Edited by William Browning, Ph.B., M.D. Vol. I, No. 2. Paper. Pp. 164. Brooklyn: A. T. Huntington, 1908.

That the opportunity of the county practitioner to contribute to the progress of medical science should not be neglected is shown by the history of the development of our knowledge of Huntington's chorea. Several previous observers had noticed these cases, but the attention of the scientific world was not attracted until Dr. Huntington, a recent graduate, and then a country practitioner, reported the results of his father's and his own observations. His description was so accurate and comprehensive that it has given his name to the disease. Neurographs devotes its second number to sketches of Huntington, and also Waters, Gorman, and Lyon who published observations before him and to a consideration of the present state of our knowledge of the disease as shown in contributions by various authors. It has been possible by the historical method to trace the cases described by the early writers and to determine that they came from well defined local groups, while it has been shown that in some cases the existence of the disease can be traced to the earliest period of the colonization of New England. The disease, however, is known to exist in all the European countries and, further, is not limited to a single race, as it has been observed in the negro.

ON THE WITNESS STAND. By Hugo Münsterberg, Professor of Psychology, Harvard University. Cloth. Pp. 269. Price, $1.50. New York: The McClure Co., 1908.

Witnesses in courts of law are examined and investigated as to veracity and character, but little as to competency in observation. Münsterberg illustrates the error in this oversight by the results of experiments: Those who saw a pre-arranged quarrel write out accounts of it, and differ radically on essential points; students are asked to state the length of time between two sounds and variously estimate it from half a second to sixty seconds; the actual time being ten seconds, etc. The actions of the mind are being studied more and psychology is destined to occupy a more important position. Münsterberg takes up hypnotism, suggestion, untrue confessions, and the association test for crime, recently described in THE JOURNAL by Dr. Scripture. The book is not an elaborate treatise—only some fragmentary popular sketches which call attention to the importance from legal and humanitarian points of view of understanding how the mind operates under various conditions.

HYDROTHERAPY. By Simon Baruch, M.D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York. Third Edition, Revised and Enlarged. Pp. 544, with illustrations. Cloth. Price, $4.00. New York: William Wood & Co., 1908.

The necessity for a special work on hydrotherapy still appears to be urgent in the view of the author of this treatise. This is one of the best books on the subject of hydrotherapy and this third edition brings up to date the quarter century's labor of the author in this field. In this edition the chapters on phthisis and insanity have been enlarged by the addition of clinical and other material. Clinical histories have been retained as furnishing not only evidence of the patient's progress under hydriatic measures, but as setting forth, clearly and forcibly, the indications for a change in methods to meet changed conditions.

THE DEVELOPMENT OF OPHTHALMOLOGY IN AMERICA, 1800 TO 1870. By Alvin A. Hubbell, M.D., Ph.D., Professor of Clinical Ophthalmology in the University of Buffalo, New York. Cloth. Pp. 197, with illustrations. Price, $1.75. Chicago: W. T. Keener & Co., 1908.

This review of the early period of American ophthalmology is an amplification of an address delivered by the author before the Section on Ophthalmology of the American Medical Association at Atlantic City, June 4, 1907. The factors which determined the development are described and brief biographic accounts of the principal actors in the drama are given. Some account is also given of the institutions that have served to further the development of ophthalmology as a separate department of medicine. The book is illustrated by the portraits of a large number of early American surgeons and forms a most worthy contribution to the history of medicine in this country.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Cloth. Pp. 684. Price, $4.00. Philadelphia: W. B. Saunders Co., 1908.

The author has taken the questions of state board examinations, many of which he finds have been repeatedly asked and has given brief answers. An effort has been made to maintain a continuity of subject matter, and a carefully arranged index makes it possible to readily find any subject. In brief, the book is a quiz-compend covering the subjects usually contained in a state board examination. Although at their best such

compends are unsatisfactory, some will find this book useful. It will be of service in guiding the student to a knowledge of what points are apt to be included in an examination and hence it will direct him in his preparation.

GENERAL SURGERY. Vol. II, of the Practical Medicine Series. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College. Pp. 614, with illustrations. Cloth. Price, $2.00. Series 1908. Chicago: The Year Book Publishers.

The author's plan is to select representative articles on the various subjects since the literature is so abundant that it is impracticable to review or to abstract it all and keep within the limits of this handbook. The volume is well arranged and presents a full account of the advances of the year in the field of surgery. Much attention is given to the details of Bier's methods of inducing hyperemia, which are daily coming into greater prominence. The book is very fully illustrated, two full-page plates being in colors. The book forms Volume II of the annual series of year-books issued by the Year Book Publishers.

THE SPECTROSCOPE. By T. Thorne Baker, F.C.S., F.R.P.S. Cloth. Pp. 130, with illustrations. Price, $1.75. New York: William Wood & Co., 1907.

This is chiefly a technical work dealing with the construction of the spectroscope and its use by the analytic chemist, especially in inorganic chemistry. It is designed to serve as an intermediate text-book between the ordinary works treating of physics and the more elaborate works on the spectroscope.

ELEMENTS OF HUMAN PHYSIOLOGY. By Ernest H. Starling, M.D. Lond., etc., Jodrell Professor of Physiology, University College, London. Eighth Edition. Cloth. Pp. 716. Price, $3.75 net. Chicago: W. T. Keener & Co., 1907.

This edition differs little from its predecessors. It presents briefly the essentials of physiology, and the general arrangement of the text is good. Nine pages are devoted to a general description of the ductless glands of which the author says: "Under this title have been grouped a number of organs the sole resemblance between which lies in the fact that we know little about them."

PRACTICE OF MEDICINE FOR NURSES. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine in the University of Kansas. With a Chapter on the Technic of Nursing, by Pearl L. Laptad, Principal of the Training School for Nurses of the University of Kansas. Cloth. Pp. 284. Price, $1.50. Philadelphia: W. B. Saunders Co., 1908.

The title of this book is misleading as the author states in the preface that he believes that the nurse should neither diagnose a case nor prescribe remedies, and that therefore little space has been given to differential diagnosis or to the dosage of drugs. On the whole, the book differs little from others on the same subject.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DECAPSULATION TREATMENT OF ECLAMPSIA.

LOMA LINDA, CAL., June 18, 1908.

To the Editor:—Where can I find an article on the decapsulation treatment of eclampsia which describes a case in which the kidney parenchyma puffed out on incision of the capsule? Please refer me also to other articles on congestion and edema of the kidney in eclampsia and uremia as revealed by actual observation at operation. GEORGE K. ABBOTT.

ANSWER.—The article referred to probably is one by Dr. W. T. Wiemer, "Decapsulation of Kidneys in Treatment of Eclampsia," published in *Monatschr. f. Geburtsh. u. Gynäk.*, March, 1908, and abstracted in THE JOURNAL, April 25, 1908, p. 1387. This appears to be the only article which describes a congestion of kidneys in eclampsia such that the kidney tissue bulged out on incision. Sippel noticed in 1902 that the kidneys were in a condition of increased tension in the body of a woman who had succumbed to eclampsia with persisting anuria two days after delivery. Franck, however, states that in none of the ten cases in which the operation has been performed were there any reports of an increased tension or bulging of the kidney after splitting the capsule.

The following recent articles on this subject may be consulted:

Sippel, A.: Decapsulation of Kidney in Treatment of Severe Eclampsia, *Berl. klin. Wchnschr.*, xliii, No. 49, abstracted in THE JOURNAL A. M. A., Jan. 26, 1907, p. 373.

De Bovis, R.: Unilateral Decapsulation of Kidney in Treatment of Eclampsia, *Semaine méd.*, xxvii, No. 7; abstracted in THE JOURNAL A. M. A., April 13, 1907, p. 1304.

Franck, O.: Decapsulation of Kidney in Eclampsia, *München. med. Wchnschr.*, Dec. 10, 1907.

Sippel, A.: Decapsulation or Splitting of Kidney in Eclampsia, *Zentralbl. f. Gynäk.*, Dec. 21, 1907.

ESTIMATION OF PROTEIDS IN MILK.

PITTSBURG, PA., June 24, 1908.

To the Editor:—Please give a method of estimating proteids in milk sufficiently accurate for clinical purposes. Most methods given are so complicated that a well-equipped laboratory is necessary to carry them out. F. S. KELLOGG.

ANSWER.—All methods for quantitative estimation of proteids in milk require a certain amount of laboratory equipment and experience—and none is easy. If accurate scales and measuring instruments are at hand the following simple, though somewhat tedious, method gives results usually sufficiently accurate for clinical purposes, although it must be admitted that it is liable to some sources of error.

Evaporate to dryness on the water bath 5 c.c. of milk, after weighing in a weighed platinum dish. This operation will take about three hours. The total solids are obtained by weighing this residue. The fat is now removed by repeatedly extracting with gasoline or ether, allowing the solvent to stand for some time over the residue without stirring and then pouring off. The residue of proteids and milk sugar is now weighed and the sugar dissolved out by boiling 50 per cent. alcohol. This leaves a residue consisting of the proteids and a part of the salts. This residue is weighed and then incinerated and the weight of the ash subtracted from the combined weight. The difference gives the weight of the proteids.

The following simple method is recommended by Austin (Manual of Clinical Chemistry): Place 5 c.c. of milk in a graduate and dilute with water to 25 c.c.; mix well and fill a graduated sedimentation tube to 5 c.c. with this dilute milk and to 15 c.c. with Esbach's solution; the whole is then to be centrifuged for 3 minutes. The amount of precipitate reckoned as cubic centimeters, multiplied by 5 for dilution, and divided by 2 for fat, equals the percentage of the whole protein content. For instance, if there is 1.2 c.c., we have $1.2 \times 5 \div 2 = 3$ per cent. No claim is made to great accuracy for this process, for the percentage varies with the amount of fat; if the fat is normal, however, the results are said to correspond very closely with the calculated amount from the nitrogen found according to the Kjeldahl process. Esbach's reagent consists of 10 gm. of picric acid and 20 gm. of citric acid in a liter of water.

BACTERIOLOGY OF MEASLES.

PITTSBURG, PA., June 19, 1908.

To the Editor:—What work has been done in the bacteriology of measles? H. P. KOHLBERGER.

ANSWER.—After much search, the bacteriology of measles, so far as the essential cause is concerned, is still uncertain. Several recent investigators have described hemophilic bacilli in the catarrhal secretions from the involved mucous membranes, and Giarrè and Carlini have found similar bacilli in the blood. In connection with their article (*Archiv. für Kinderheilkunde*, 1907, xlvi, 262), references will be found to earlier work. The bacillus described does not stain by Gram's method, and stains unevenly with carbolfuchsin. It corresponds closely to the bacilli described in connection with influenza and whooping-cough. That this is not the real cause of measles has been rendered probable by the investigations of Hektoen (Experimental Measles: *Jour. Infect. Diseases*, vol. ii, 1905, p. 238). Pneumococci and streptococci are found as etiologic factors in most of the complications of measles.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending June 27, 1908:

LaGarde, L. A., lieut.-col., M. C., assigned to duty as attending surgeon, Denver, in addition to duties as chief surgeon Department of Colorado.

Lewis, W. F., major, M. C., left Fort Sill, Okla., with troops for Leon Springs, Texas.

Grubbs, R. B., capt., M. C., left Fort McIntosh, Texas, for Leon Springs, Texas.

Harris, H. S. T., major, M. C., leave of absence further extended one month.

Reynolds, C. R., capt., M. C., ordered to duty as commanding officer of Co. C., H. C., Army General Hospital, Washington Barracks, D. C.

Grissinger, J. W., capt., M. C., leave of absence extended to July 24.

Morris, S. J., capt., M. C., granted leave of absence for two months, about August 15.

Wickline, W. A., capt., M. C., left Army General Hospital, San Francisco, Cal., with one-half of Company B., H. C., for duty at Leon Springs, Texas.

Heysinger, J. D., capt., M. C., ordered from Key West Barracks, Fla., to Chickamauga Park, Ga., for duty.

Campbell, G. F., Guittard, A. M., Koyle, F. T., and Langenderfer, F. V., contract surgeon, relieved from duty in Philippines Division and ordered to San Francisco, Cal., by first available transport.

Hull, A. R., contract surgeon, granted leave of absence for one month.

Whinnery, J. C., dental surgeon, left Fort Columbia, Wash., for duty at Vancouver Barracks, Wash.

Waddell, R. W., dental surgeon, relieved from duty in the Philippines Division, and ordered to Fort Slocum, N. Y., for duty.

Hammond, W. G., dental surgeon, left Fort Apache, Ariz., and arrived at Whipple Barracks, Ariz., for duty.

Voorhies, H. G., dental surgeon, ordered to Fort Crook, Nebr., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending June 27, 1908:

Blackwell, E. M., P. A. surgeon, ordered to the Naval Academy.

Stalnaker, P. R., asst.-surgeon, ordered home and granted leave for two months.

McClurg, W. A., medical director, to be placed on the retired list, Sept. 1, 1908, on his own application, on completion of thirty years' service, in accordance with a provision of the naval appropriation act of May 13, 1908.

Taylor, J. L., asst.-surgeon, ordered to the Naval Hospital, New Fort Lyon, Colo.

Bogan, F. M., P. A. surgeon, detached from the Naval Recruiting Station, Minneapolis, Minn., and ordered to the *Wisconsin*.

Lando, M. E., asst.-surgeon, ordered to the Naval Recruiting Station, Minneapolis.

Tribie, G. B., asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Relief*.

Clark, G. F., asst.-surgeon, ordered to the *Lancaster*.

Allen, D. G., asst.-surgeon, ordered to the Naval Medical School, Washington, D. C.

Smith, C. W., asst.-surgeon, ordered to the Naval Hospital, Portsmouth, N. H., and to additional duty at the Naval Prison at that yard.

Kerr, W. M., asst.-surgeon, ordered to the Naval Hospital, New York, N. Y.

Wheler, W. M., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home.

Brown, H. L., P. A. surgeon, detached from the Naval Station, Cavite, P. I., and ordered to the *Cleveland*.

Randall, J. A., P. A. surgeon, detached from the *Denver* and ordered to the *Rainbow*

Rodman, S. S., P. A. surgeon, detached from the *Rainbow* and ordered home.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 24, 1908:

Williams, L. L., surgeon, granted leave of absence for 1 month, from July 15, 1908.

Gardner, C. H., P. A. surgeon, relieved from duty at San Francisco, and directed to proceed to Wilmington, N. C., assuming command of the service at that port.

Lavinder, C. H., P. A. surgeon, relieved from duty at Wilmington, N. C., and directed to proceed to Stapleton, N. Y., reporting to the medical officer in command, for duty and assignment to quarters.

White, M. J., P. A. surgeon, granted extension of leave of absence for 15 days, from July 1, 1908.

Berry, T. D., P. A. surgeon, placed on "waiting orders," from June 1, 1908.

Manning, H. M., asst.-surgeon, directed to report to the chairman of a board of examiners at the Bureau, Washington, D. C., July 6, 1908, for the purpose of determining his fitness for promotion to the grade of P. A. surgeon.

Manning, H. M., asst.-surgeon, granted leave of absence for 7 days.

Clark, E. S., acting asst.-surgeon, granted leave of absence for 10 days, from June 11, 1908.

Rush, J. O., acting asst.-surgeon, granted leave of absence for 14 days, from July 1, 1908.

Stoddard, C. S., acting asst.-surgeon, granted leave of absence for 30 days, from June 27, 1908.

BOARD CONVENED.

A board of medical officers was convened to meet at Seattle, Wash., for the purpose of examining alien immigrants. Detail for the board: P. A. Surgeon M. W. Glover, chairman; Asst.-Surgeon C. W. Chapin; Acting Asst.-Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the two weeks ended June 26, 1908:

SMALLPOX—UNITED STATES.

Alabama: Huntsville and vicinity, June 18, 2 cases; Mobile, May 23-June 6, 2 cases.

California: Los Angeles, May 23-June 6, 2 cases; San Francisco, May 23-June 6, 15 cases.

Illinois: Chicago, May 30-June 6, 1 case; Springfield, May 23-June 11, 6 cases.

Indiana: Fort Wayne, May 23-June 6, 11 cases; Jeffersonville, May 1-31, 30 cases; Indianapolis, May 18-June 7, 17 cases; Lafayette, June 8-15, 3 cases; South Bend, June 6-13, 4 cases; Terre Haute, May 30-June 13, 2 cases.

Iowa: Atlantic, vicinity, May 16, 12 cases; Emerson, June 1, 3 cases; Mason City, May 2-June 1, 19 cases; Ottumwa, May 30-June 6, 1 case.

Kansas: Kansas City, May 30-June 6, 5 cases; Topeka, May 31-June 6, 1 case.

Kentucky: Catlettsburg, May 24, 1 case; Covington, May 30-June 13, 1 case, 1 death.

Louisiana: New Orleans, Jan. 6-13, 3 cases.

Michigan: Detroit, June 6-13, 1 case; Grand Rapids, May 30-June 6, 1 case; Kalamazoo, 2 cases; Port Huron, May 23-30, 4 cases, 1 death; Saginaw, May 30-June 13, 5 cases.

Minnesota: Winona, May 30-June 6, 4 cases.

Missouri: Kansas City, May 23-June 13, 11 cases; St. Joseph, May 23-June 6, 13 cases; St. Louis, May 30-June 6, 1 case.

Nebraska: Friend, June 18, 1 case.

New York: Binghamton, June 1-8, 1 case; Niagara Falls, May 30-June 6, 1 case.

Ohio: Cincinnati, May 22-June 18, 9 cases; Dayton, May 30-June 13, 3 cases; Norwich, June 1, 4 cases; Toledo, May 16-June 13, 10 cases.

South Carolina: May 22-29, 2 cases.

Tennessee: Knoxville, May 30-June 6, 2 cases; Mingo Mountain, June 2, 25 cases; South Pittsburg, June 3-10, 1 case.

Washington: Spokane, May 23-June 6, 18 cases; Tacoma, May 23-30, 2 cases.

Wisconsin: La Crosse, May 30-June 13, 4 cases; Milwaukee, May 23-30, 6 cases; Racine, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, April 26-May 2, 8 cases, 3 deaths.

Porto Rico: Mayaguez, May 31-June 6, 2 cases.

SMALLPOX—FOREIGN.

Arabia: Aden, April 27-May 25, 14 deaths.

Belgium: Ghent, May 9-16, 1 death.

Brazil: Pernambuco, April 1-30, 65 deaths; Rio de Janeiro, May 3-10, 141 cases, 50 deaths.

Canada: Halifax, May 16-June 13, 17 cases; Hamilton, May 1-31, 13 cases; Winnipeg, May 31-June 6, 1 case.

Cape Colony: East London, April 16-25, 1 case, 1 death.

China: Foochow, April 25-May 9, present; Hongkong, April 25-May 9, 30 cases, 22 deaths; Nanking, April 25-May 1, present.

Ecuador: Guayaquil, May 9-30, 8 deaths.

Egypt: Cairo, May 13-27, 17 cases, 4 deaths.

France: Paris, May 16-23, 4 cases.

Germany, general, May 9-16, 32 cases.

Great Britain: London, May 23-30, 1 case; Southampton, May 22-30, 2 cases.

India: Bombay, May 5-19, 41 cases, 54 deaths; Calcutta, April 25-May 9, 16 cases, 15 deaths.

Italy, general, May 17-31, 57 cases; Naples, May 23-30, 2 cases; Palermo, May 9-23, 4 cases.

Japan: Osaka, May 2-23, 52 cases 29 deaths.

Java: Batavia, April 11-May 2, 10 cases.

Manchuria: Dalny, May 9-16, 1 case.

Mexico: Aguascalientes, May 31-June 7, 1 death; Mexico City, April 16-May 9, 35 deaths.

Peru: Lima, May 2-27, 2 cases.

Portugal: Lisbon, May 9-30, 10 cases.

Russia: Batoum, March 1-31, 17 cases; Moscow, May 9-23, 55 cases, 23 deaths; Odessa, May 16-23, 3 cases; Riga, May 9-30, 14 cases; St. Petersburg, May 9-16, 52 cases, 10 deaths; Warsaw, April 18-25, 5 deaths.

Siberia: Vladivostok, April 23-May 5, 1 case.

Spain: Barcelona, May 1-31, 1 death; Valencia, May 16-30, 32 cases, 6 deaths.

Turkey: Constantinople, May 17-31, 11 deaths.

Turkey in Asia: Bagdad, April 18-May 16, 83 cases, 10 deaths; Smyrna, April 14-May 5, 7 deaths.

YELLOW FEVER.

Brazil: Manaos, May 9-23, 4 cases, 4 deaths; Para, May 16-30, 5 cases, 5 deaths.

Cuba: Santiago, June 11, 1 case

Ecuador: Guayaquil, May 9-16, 2 deaths.

CHOLERA.

Ceylon: Colombo, May 2-21, 1 case, 1 death.

Cochin China: April 27-May 4, 54 cases, 45 deaths; Saignon, April 1-25, 47 cases, 28 deaths; May 2-9, 30 cases, 25 deaths.

India: Bombay, May 5-19, 3 deaths; Calcutta, April 25-May 9, 394 deaths; Rangoon, April 25-May 9, 11 deaths.

PLAGUE.

Chile: Antofagasta, May 17, 24 cases, 2 deaths; Arica, May 21, present: Valparaiso, March 21-May 14, 5 cases, 3 deaths.

China: Amoy, April 25, epidemic; Hongkong, April 25-May 9, 88 cases, 77 deaths.

Ecuador: Guayaquil, May 9-30, 27 deaths.

Egypt, General, May 13-28, 102 cases, 61 deaths; Alexandria, May 18, 1 case 2 deaths.

India: Bombay, May 5-19, 330 deaths; Calcutta, April 25-May 9, 157 deaths; Rangoon, April 25-May 9, 61 deaths.

Japan: Nara, to May 14, 7 cases; Osaka, May 17-27, 2 cases, 2 deaths.

Peru, general, May 2-23, 60 cases, 30 deaths; Callao, May 16-23, 3 cases.

Straits Settlements: Singapore, April 25, May 9, 2 deaths.

Turkey in Asia: Jiddah, Feb. 14-May 28, 71 cases, 68 deaths; Yembo, 137 cases, 126 deaths.

Venezuela: Caracas, June 4-7, 6 cases, 2 deaths; La Guaira, May 30-June 9, 10 cases, 6 deaths.

Marriages

RALPH MILLS, M.D., Decatur, Ill., to Miss Ethel Bumgardner of McNabb., Ill., June 1.

OLANDER E. WALD, M.D., Chicago, to Miss May Augustine of West Point, Ind., June 17.

ALBERT MICHAEL WICKSTROM, M.D., to EMMA RÜHI-MAKI, M.D., both of Chicago, June 10.

ARTHUR M. CHEETHAM, M.D., to Miss Agnes May Robinson, both of Cleveland, Ohio, June 18.

HUGH T. MORRISON, M.D., to Miss Mary Logan Coleman, both of Springfield, Ill., June 23.

F. W. MCCULLOUGH, M.D., Pittsburg, to Miss Mary A. Bortz of Greensburg, Pa., June 6.

WILLIAM T. MAYNARD, M.D., to Miss Josephine Frances Mertz, both of Milwaukee, June 9.

ROBERT M. DAWSON, M.D., Wittman, Md., to Miss Agnes B. Battee at Royal Oak, Md., June 10.

WALTER W. GILL, M.D., Westfield, N. J., to Miss Mary C. Dunham of Alloway, N. J., June 16.

C. B. LESHER, M.D., Northumberland, Pa., to S. MABLE GRIER, M.D., of Salem, N. J., June 18.

JOEL ISHAM COLLIER, M.D., Galveston, Texas, to Miss Susie Saunders of Navasota, Texas, June 9.

WALTER W. RHYAN, M.D., Goldfield, Nev., to Miss Verda A. Elliott of South Omaha, Neb., recently.

RICHARD DUTTON, M.D., Wakefield, Mass., to Miss Ethel Florence King of Brockton, Mass., June 9.

MURRAY D. COWIE, M.D., Ann Arbor, Mich., to ANNA MARION COOK, M.D., of Evansville, Ind., June 13.

OTTO H. G. ROSENKRANZ, M.D., Marietta, Ohio, to Miss Inez Adelaide Haymes of Philadelphia, June 17.

R. GRANVILLE CAMPBELL, M.D., Lexington, Va., to Miss Ellin North Moale of Baltimore, June 20.

C. M. KINGSTON, M.D., Grand Forks, B. C., to Miss Martha W. Vankleek, at Armstrong, B. C., June 3.

HENRY HONEYMAN HAZEN, M.D., Washington, D. C., to Miss Laura May Ross of Malden, Mass., June 1.

JULIAN R. BECKWITH, M.D., to Miss Louise Cameron, both of Petersburg, Va., at Anniston, Ala., June 11.

CALVIN F. MCDOWELL, M.D., New Castle, Pa., to Miss Elizabeth Up De Graph of Beaver Falls, Pa., June 18.

JOSEPH LAWN THOMPSON, M.D., Washington, D. C., to Miss Anna Letitia Waters, at Rockville, Md., June 10.

J. E. MCMANIS, M.D., Havensville, Kan., to Miss Jane Vare Dunlap of Leavenworth, at Emporia, Kan., June 17.

THOMAS GARRETT PRETLOW, M.D., Richmond, Va., to Miss Frances Lewellyn Ribble of Wytheville, Va., June 24.

ROBERT FRANKLIN COOPER, M.D., Centreville, Ala., to Miss Emily Lamar Gibson, at Rockbridge Baths, Va., June 16.

Deaths

George Francis Heath, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1881; a member of the American Medical Association; resident physician at the University Hospital, Ann Arbor, from 1881 to 1884; alderman of Warrensburg, Mo., for two terms; four times mayor of Monroe, Mich.; for many years publisher of the *Numismatist;* one of the organizers, an early president and for many years treasurer of the American Numismatic Association; first president, and since 1892, secretary and treasurer of the Monroe County Medical Society; died at his home, June 16, from cerebral hemorrhage, after an illness of only a few hours, aged 57.

George Jenkin Preston, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1883; a member of the Medical and Chirurgical Faculty of Maryland; professor of physiology and nervous diseases in the College of Physicians and surgeons, Baltimore, since 1890; secretary of the lunacy commission of Maryland since 1898; author of many changes in the lunacy laws of the state; a widely known alienist; neurologist to several hospitals, and author of a standard work on hysteria; died at his home in Baltimore, June 17, from disease of the liver, after a long illness, aged 49.

James D. Roberts, M.D. Bellevue Hospital Medical College, New York City, 1875; a member of the Medical Society of the State of North Carolina; of Mount Olive, N. C.; superintendent of the Eastern State Hospital for the Insane, Goldsboro, from 1881 to 1887; and until recently literary editor of the *North Carolina Medical Journal;* died June 14, at Memorial Hospital, Richmond, Va., from disease of the stomach, after an illness of two weeks, aged 56.

Albert Hartsuff, M.D. Castleton (Vt.) Medical College, 1861; Brigadier General, U. S. Army, retired; who entered the army as an assistant surgeon in 1861; was made captain and brevet lieutenant colonel in 1866; ten years later was promoted to major; in 1892 to lieutenant colonel; served as chief surgeon of Camp George H. Thomas, Chickamauga, Ga., during the early part of the Spanish-American War; was made colonel in 1900; and retired a year later; died suddenly from heart disease, at his home in Detroit, June 22, aged 71.

Alexander H. Young, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the American Medical Association and of the Tri-State Medical Society of Tennessee, Mississippi and Arkansas; for fifty-two years a practitioner of Ripley, Tenn.; local surgeon for the Illinois Central Railroad; died in the Presbyterian Hospital, Memphis, June 14, two days after a surgical operation, aged 77.

Oliver L. Daniel, M.D. Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1896; a member of the American Medical Association; surgeon to St. Andrews' Hospital, Murphysboro, Ill.; local surgeon to the Big Muddy Coal and Iron Company; and one of the most prominent practitioners of southern Illinois; died at his home, June 21, aged 43.

Alexander Marion Elmore, M.D. Missouri Medical College, St. Louis, 1861; a member of the State Medical Association of Texas; surgeon in the Confederate service throughout the Civil War; professor of proctology in Baylor College of Medicine, Dallas, Texas; died at his home in that city, June 20, from paralysis, after an invalidism of two years, aged 70.

Clifford L. De Vinny, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1876; member of the San Joaquin County (Cal.) Medical Society; a practitioner of Stockton until a few months ago, and later a resident of Santa Cruz; died from nephritis, June 16, three months after an operation for decapsulation of the kidney, aged 59.

James F. Christal, M.D. Cooper Medical College, San Francisco, 1891; a member of the Medical Society of the State of California; at one time resident physician at the State Hospital for the Insane, Agnews; a resident of Santa Cruz; died in St. Luke's Hospital, San Francisco, June 11, after an operation for cancer of the intestines, aged 54.

Royal F. Clark, M.D. Dartmouth Medical School, Hanover, N. H., 1860; a member of the Medical Society of the State of California; surgeon in the army during the Civil War; for many years a practitioner of Los Angeles; died at his home in that city, June 15, from cerebral hemorrhage, after an invalidism of several years, aged 69.

John Randolph Webster, M.D. Rush Medical College, Chicago, 1858; Jefferson Medical College, Philadelphia, 1864; a member of the American and Military Tract medical associations, who recently celebrated his fiftieth anniversary as a practicing physician of Monmouth, Ill.; died at his home in that city, June 19, aged 72.

Joseph Henry Seaton, M.D. Kentucky School of Medicine, Louisville, 1857; surgeon of the Twenty-First Missouri Volunteer Infantry during the Civil War; for many years a practitioner of San Luis Obispo County, Cal.; died at his home in San Luis Obispo, June 13, after an illness of one week, aged 71.

Joseph M. Finnell, M.D. New York University Medical College, New York City, 1887; deputy coroner of Ramsey County, Minn.; formerly assistant health commissioner of New York City; was striken with cerebral hemorrhage, May 30, and died at St. Joseph's Hospital, St. Paul, Minn., June 13, aged 47.

Charles P. Jones, M.D. Jefferson Medical College, Philadelphia, 1849; for many years chief judge of the Orphan's Court and health officer of Worcester County, Md.; died at his home in Snow Hill, June 16, from cerebral hemorrhage, after an illness of five days, aged 83.

Henry F. Carriel, M.D. College of Physicians and Surgeons in the City of New York, 1857; superintendent of the Illinois Central Hospital for the Insane, Jacksonville, from 1870 to 1893, and thereafter a resident of Chicago; died in Jacksonville, June 23, aged 77.

Cornelius Honaker, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1884; for more than

forty years a practitioner of Scioto County, Ohio; died at his home in Pond Run, June 18, from dropsy, after an invalidism of four years, aged 76.

Charles Oscar Murphy, M.D. Medical School of Havard University, Boston, 1894; a member of the American Medical Association; for five years a practitioner of New York City; died in Corey Hospital, Boston, June 13, after a lingering illness, aged 38.

Thomas W. Small, M.D. Jefferson Medical College, Philadelphia, 1900; surgeon of the American line steamer *St. Louis;* died in his cabin June 19, from the effects of a gunshot wound of the brain, said to have been self-inflicted, with suicidal intent.

Michael J. Neville, M.D. Faculty of Medicine Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1893; of Brooklyn, N. Y.; surgeon to St. Catherine's Hospital in that city; died in that institution, June 22, aged 48.

James W. Purdy, M.D. New York Medical College, New York City, 1854; surgeon of the Thirty-Seventh New York Volunteer Infantry, during the Civil War; died at his home at Brooklyn, June 20, from cerebral hemorrhage, aged 76.

John F. Carleton, M.D. University of Buffalo (N. Y.) Medical Department, 1886; a member of the Medical Society of the State of New York; died suddenly at his home in Waterloo, June 18, from heart disease, aged 64.

William Adolphus Jansen, M.D. Germany; of Miamisburg, Ohio; for many years a teacher of physical culture; died in St. Elizabeth's Hospital, Dayton, June 10, from senile debility, after an illness of four weeks, aged 84.

Robert **Lambeth, M.D.** Memphis (Tenn.) Medical College, 1853; for many years a practitioner of Mountain Grove, Mo., died at his home in Springfield, Mo., June 7, from nephritis, after an illness of eight weeks, aged 77.

Henry **R. Garner, M.D.** Cooper Medical College, San Francisco, 1877; formerly of Douglas, Alaska; died at his old home in Chehalis, Wash., May 30, from heart disease, after an illness of two days, aged 66.

Daniel **Edward Millerick, M.D.** Medical School of Harvard University, Boston, 1881; of Boston, Mass.; a member of the Massachusetts Medical Society; died at his home in Stoneham, Mass., June 18, aged 52.

James **Robert Lockhart, M.D.** Cincinnati College of Medicine and Surgery, 1870; for 25 years a member of the school board of Freedom, Pa.; a veteran of the Civil War; died at his home, June 15, aged 66.

Horace **G. Westlake, M.D.** New York University Medical College, New York City, 1850; for 58 years a practitioner of Hillsdale, N. Y.; died at his home in that place, June 7, after a lingering illness.

Arthur **J. Buckner** (License, Missouri, 1884), for many years a practitioner of Northeastern Missouri; died at his home in Peakesville, June 17, from heart disease, after an illness of three months, aged 71.

Daniel **Madison Hurley, M.D.** Bellevue Hospital Medical College, New York City, 1892; died at his home in Norwood, Mass., May 31, from nephritis, after an illness of five months, aged 44.

James **H. Heller, M.D.** Jefferson Medical College, Philadelphia, 1898; of Wilkes-Barre, Pa.; died at the home of his parents in that city, June 20, after an illness of two years.

Claire **Sims, M.D.** Northwestern University Womans Medical School, Chicago, 1898; formerly a practitioner of Chicago; died at her home in Citronelle, Ala., June 14, aged 31.

Clyde **R. Yoe, M.D.** Vanderbilt University, Medical Department, Nashville, Tenn., 1889; died at his home in Jefferson City, Tenn., June 17, from rheumatic endocarditis.

Alexander A. Kunstlich, M.D. Medical College of Indiana, Indianapolis, 1890; died at his home at Passaic, N. J., June 21, after an illness of three months, aged 63.

Thomas W. Folger, M.D. Atlanta (Ga.) Medical College, 1876; died suddenly, June 9, at his home in Central, S. C., from heart disease, aged 59.

J. S. Canada, M.D. Louisville (Ky.) Medical College, 1879; died at his home in Independence, Miss., June 14, after an illness of several weeks.

Frederick Lacy Wheeler, M.D. University of Minnesota, College of Medicine and Surgery, Minneapolis, 1904; of Argyle, Minn., died June 14.

Elizabeth Uncapher, M.D. Homeopathic College, University of Michigan, Ann Arbor, 1886; died at her home in Houston, Texas, June 18.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

UTAH State Board of Medical Examiners, Salt Lake City, July 6-7. Secretary, Dr. R. W. Fisher, Salt Lake City.

ARIZONA Board of Medical Examiners, Phoenix, July 6-7. Secretary, Dr. Ancil Martin, Phoenix.

KENTUCKY State Board of Health, Louisville, July 7. Secretary, Dr. J. N. McCormack, Bowling Green.

WASHINGTON State Medical Examining Board, Seattle, July 7. Secretary, Dr. C. W. Sharples, 528 Burke Bldg., Seattle.

COLORADO State Board of Medical Examiners, State Capitol Bldg., Denver, July 7. Secretary, Dr. S. D. VanMeter, 1723 Tremont St., Denver.

MAINE Board of Registration of Medicine, State House, Augusta, July 7-8. Secretary, Dr. Wm. J. Maybury, Saco.

NORTH DAKOTA State Board of Medical Examiners, Grand Forks, July 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

OREGON State Board of Medical Examiners, Portland, July 7-9. Secretary, Dr. Byron E. Miller, "The Dekum," Portland.

SOUTH DAKOTA State Board of Medical Examiners, Deadwood, July 8. Secretary, Dr. H. E. McNutt, Aberdeen.

NEW MEXICO Board of Health and Medical Examiners, The Capitol, Santa Fe, July 13-14. Secretary, Dr. J. A. Massie, Santa Fe.

ARKANSAS Regular Board of Medical Examiners, State Capitol Bldg., Little Rock, July 14. Secretary, Dr. F. T. Murphy, Brinkley.

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, July 14. Secretary, P. C. Williams, Texarkana.

ARKANSAS Eclectic Board of Medical Examiners, Little Rock, July 14. Secretary, Dr. A. J. Widener, Little Rock.

CONNECTICUT Homeopathic Medical Examining Board, New Haven, July 14. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Medical Examining Board, Hotel Garde, New Haven, July 14. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

CONNECTICUT Regular State Medical Examining Board, City Hall, New Haven, July 14-15. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

DISTRICT OF COLUMBIA Board of Medical Supervisors, Washington, July 14. Secretary, Dr. George C. Ober, 210 B. St., S.E., Washington.

WEST VIRGINIA State Board of Health, Charleston, July 14-16. Secretary, Dr. H. A. Barbee, Pt. Pleasant.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, July 14-16. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

VERMONT State Board of Medical Registration, Burlington, July 14-16. Secretary, Dr. W. Scott Nay, Underhill.

WISCONSIN Board of Medical Examiners, Park Hotel, Madison, July 14-16. Secretary, Dr. J. V. Stevens, Jefferson.

NEW HAMPSHIRE State Board of Medical Examiners, State Library, Concord, July 15-16. Regent, Mr. H. C. Morrison, Concord.

Ohio Board Requires Practical Tests.

At the examination held by the Ohio State Board of Medical Registration and Examination at Columbus, June 8, 9, and 10, besides the usual written examination, practical examinations in pathology, bacteriology and chemistry were required. In these practical tests each applicant was asked to identify pathologic specimens, bacteria and urinary sediments and to make a urine analysis. These tests were conducted at the same time as the written examination in one corner of the examination hall and in the presence of the entire class. An extension of time equal to that required for the practical test was granted to those who were called from their written work. There were 161 applicants at the examination and it required about fifty minutes for each appplicant to complete the practical test. The results are said to have been highly satisfactory and the board will doubtless require these practical tests at all future examinations.

Arkansas April Report.

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, April 14, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 69, of whom 38 passed, including 33 non-graduates, and 31 failed, including 29 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1902)	85
Tulane University of Louisiana	(1901)	80
Washington University, St. Louis	(1897)	87
Memphis Hosp. Med. Coll.	(1905) 87; (1906)	90

FAILED.

Louisville Nat. Med. Coll.	(1904)	66
University of West Tennessee	(1908)	73

LICENSED WITHOUT EXAMINATION.

There were also licensed at this examination seven old practitioners, including three non-graduates, who were granted license by reason of having been registered under the old law. The following colleges were represented:

College.	Year of Grad.
Cooper Medical Coll.	(1887)
Baltimore University	(1896)
University of the South	(1899)
Memphis Hosp. Med. Coll.	(1901)

Colorado April Report.

Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, April 7, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 70. Thirty-eight applicants were licensed at this examination, five of whom passed the examination, and thirty-three were registered on presentation of satisfactory credentials, including state licenses. One of the applicants appearing for examination failed to make the required percentage. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1907)	76, 79.3, 83.6
Northwestern University Medical School	(1907)	70.5
American Medical College, St. Louis	(1905)	76.5

REGISTERED ON CREDENTIALS.

College.	Year Grad.	State Licenses.
Rush Medical College	(1903) Missouri; (1907)	Texas
Northwestern Univ. Med. School	(1893) Illinois; (1905)	Illinois
American Medical Miss. College	(1903)	Illinois
Coll. of P. and S., Chicago	(1906) Illinois; (1907)	Idaho
University of Iowa	(1907)	Iowa
University of Louisville	(1885)	Missouri
Johns Hopkins Medical School	(1899)	Maryland
Boston University	(1885)	Mass.
Medico-Chirurgical College, Kansas City	(1903)	Kansas
St. Louis Medical College	(1889)	Missouri
University Med. Coll., Kansas City	(1896)	Missouri
Kansas City Medical College	(1894)	Nebraska
Central Medical College, St. Joseph	(1898)	Missouri
Omaha Medical College	(1888) Kansas; (1899) California; (1892)	Utah
Long Island College Hospital	(1901)	New York
Albany Medical College	(1899)	Illinois
Bellevue Hospital Medical College	(1892)	Illinois
Berkshire Medical College	(1867)	New York
University of Pennsylvania	(1903)	Penna
Jefferson Med. Coll.	(1903), (1904), (1905)	Penna
Hahnemann Med. Coll., Philadelphia	(1895)	Maine
Medico-Chirurgical College, Philadelphia	(1893), (1899), (1904)	Penna
University of Nashville	(1905)	Tennessee
University of Vermont	(1905)	Vermont

FAILED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1907)	61.8

Montana April Report.

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, April 7-9, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 32, of whom 21 passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Colorado	(1906)	75
American Med. Miss. Coll.	(1907)	80.5
Rush Med. Coll.	(1904)	84.3
College of P. and S., Chicago	(1905)	83.4
College of P. and S., Baltimore	(1906)	81.6
University of Michigan	(1904) 78.2; (1906)	77.1
University of Minnesota	(1907)	75
University Med. Coll., Kansas City	(1901) 77.8; (1902)	76
Creighton Med. Coll.	(1903)	75
Bellevue Hosp. Med. Coll.	(1888)	79.1
University of Buffalo	(1901)	83.2
Medical Coll. of Ohio	(1904)	76.7
Miami Med. Coll.	(1906)	75.1
University of Virginia	(1907) 77.5, 80	
Toronto University, Ontario,	(1900) 75.5; (1905) 81.9; (1907) 84.4.	
McGill University, Quebec	(1903)	80.7

FAILED.

George Washington University	(1907)	63.6
Rush Med. Coll.	(1886)	58.8
College of P. and S., Chicago	(1905)	69.9
Chicago Homeo. Med. Coll.	(1897)	72.1
Bennett Coll. of Ecl. Med. and Surg.	(1879)	*47.5
Sioux City Coll. of Med.	(1906)	*66.2
Kansas Med. Coll.	(1904)	68.7
Minneapolis Coll. of P. and S.	(1899)	70.3
Washington University, St. Louis	(1904)	53.3
University Med. Coll., Kansas City	(1903)	69.7
St. Louis University	(1904)	56.3

Massachusetts March Report.

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, March 10-12, 1908. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 64, of whom 35 passed, including one non-graduate, and 29 failed, including 8 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard College	(1907)	75, 78
Georgetown University	(1906)	75.7
Yale Medical School	(1893) 75; (1906)	81.9
College of P. and S., Chicago	(1905)	76.5
Northwestern University Medical School	(1899)	75.7
Johns Hopkins Medical School	(1906) 81.5, 82.9	
Baltimore Medical College	(1906) 75, 79; (1907)	76.4
College of P. and S., Baltimore	(1893)	75
Tufts College Medical School	(1907) 75, 75.2, 77.2	
Harvard Medical School	(1906) 75.6, 82.7, 83.5; (1907) 79.6, 81.7, 82.5, 84.1, 84.2; (1908) 83.7.	
Cornell University	(1905)	83.5
Jefferson Medical College	(1901)	79.1
University of Pennsylvania	(1899)	75
Woman's Med. Coll. Pennsylvania	(1902) 75; (1906)	76.5
University of Vermont	(1903) 77.2; (1906) 75; (1907)	75
McGill University, Quebec	(1907)	81.6

FAILED.

Howard University	(1907)	70.8
Baltimore University	(1907)	70
Maryland Medical College	(1906) 63.9; (1907)	70.6
Baltimore Med. Coll.	(1902) 60.2; (1905) 67.5; (1907)	67.9
Tufts College Medical School	(1907)	70.9
Boston University	(1907)	70.7
Coll. of P. & S., Boston,	(1905) 69.9; (1906) 54.7; (1907)	68.9
Barnes Medical College	(1900)	30.7
Jefferson Medical College	(1897) 71.5; (1907)	72
University of Vermont	(1900)	58.2
Laval University, Quebec,	(1902) 65; (1904) 54.1; (1906)	56.2
University of Naples, Italy	(1890) 54; (1895)	65

Rhode Island April Report.

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 2, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 12, of whom 7 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Yale Medical School	(1907)	82.9
Johns Hopkins Medical School	(1905)	88.1
University of Maryland	(1902)	80.0
Maryland Medical College	(1907)	80.3
Tufts College Medical School	(1906)	80.2
Baltimore University	(1907)	80.1
Harvard Medical School	(1907)	86.1

FAILED.

College.	Year Grad.	Per Cent.
Baltimore University	(1904)	71.1
Harvard Medical School	(1906)	71.1
University of Naples, Italy	(1903)	64.6
Non-Graduates		62, 75.4

West Virginia April Report.

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Parkersburg, April 14-16, 1908. The number of subjects examined in was 9; total number of questions asked, 120; percentage

required to pass, 80. The total number of candidates examined was 20, of whom 18 passed and 2 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
College of P. and S., Chicago	(1897)	86
Kentucky School of Medicine	(1906) 85; (1907)	80, 81
Hospital College of Medicine, Louisville	(1906)	90
Tulane University of Louisiana	(1902)	91
College of P. and S., Baltimore	(1906)	96
Baltimore Medical College	(1905) 83; (1907)	83
Baltimore University	(1905)	83
Johns Hopkins Medical School	(1906)	95
University of Maryland	(1906) 84; (1907)	89
Maryland Medical College	(1904)	90
Jefferson Medical College	(1907)	91
Chattanooga Medical College	(1908)	85
Medical College of Virginia	(1907)	86
University of Virginia	(1907)	88
FAILED.		
Kentucky School of Medicine	(1905)	74
Baltimore University	(1900)	11

Missouri May Report.

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at Kansas City, May 4-6, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 68, of whom 52 passed and 16 failed. The following colleges were represented:

College.	Year. Grad.	Total No. Examined.
PASSED.		
Howard University, Washington	(1906)	1
Rush Med. Coll.	(1904), (1906)	2
Northwestern Univ. Med. School	(1907)	1
University of Kansas	(1, 1907), (7, 1908)	8
Baltimore Med. Coll.	(1907)	1
Tufts Coll. Med. School	(1907)	1
Washington University, St. Louis	(1907)	2
Ensworth Medical College	(1908)	7
Homeopathic Med. Coll. of Missouri	(1908)	1
St. Louis Coll. of P. and S.	(1908)	5
University Med. Coll., Kansas City, (1, 1906), (1, 1907), (16, 1908)		18
Barnes Med. Coll.	(1905)	1
Kansas City Hahnemann Med. Coll.	(1908)	1
University of Nashville	(1907), (1908)	2
University of Toronto, Canada	(1898)	1
FAILED.		
College of P. and S., Chicago	(1902)	1
Ensworth Med. Coll.	(1908)	2
Homeopathic Med. Coll. of Missouri	(1908)	1
University Med. Coll., Kansas City	(1908)	5
Kansas City Hahnemann Med. Coll.	(1908)	2
St. Louis Coll. of P. and S.	(1908)	3
Meharry Med. Coll.	(1906), (1907)	2

Society Proceedings

COMING MEETING.

American Ophthalmological Society, New London, Conn., July 15-16
American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Medical Society of Wisconsin, Sheridan, Aug 28.

AMERICAN PEDIATRIC SOCIETY.

Annual Meeting, held at Delaware Water Gap, Pa., May 25-26, 1908.

The President, CHARLES GILMORE KERLEY, M.D., New York, in the chair.

Officers Elected.

The following officers were elected: President, Dr. Charles B. Putnam, Boston; vice-presidents, Drs. Isaac A. Abt, Chicago, and T. S. Southworth, New York; secretary, Dr. Samuel S. Adams, Washington, D. C.; recorder, Dr. L. E. La Fetra, New York; treasurer, Dr. J. Park West, Bellaire, Ohio; member of council, Dr. Alfred Hand, Jr., Philadelphia.

The next place of meeting is to be Lenox, Mass.

Serotherapy of Epidemic Cerebrospinal Meningitis.

DR. SIMON FLEXNER, New York, said that he owed his ability to bring before the society a large number of figures relating to cases treated with the serum to the fact that several of the members had been very active, indeed strenuous in subjecting it to a clinical test. It had been about one year since the serum was first used in this country. He had statistics on something less than 400 cases, all diagnosed bacteriologically as well as clinically, in which the serum had been employed. In the last year the use of the serum had been somewhat modified, larger and more frequent doses being employed. A larger percentage of recoveries were shown than in previous series. Cases were treated much earlier now, which was a point of great value. The speaker emphasized this point and compared it with the early use of the diphtheria antitoxin. The serum belonged to the class of bacteriolytic sera rather than to the antitoxic class. It exerted a deleterious effect on the micro-organisms: their viability was to a certain extent lost. It was not wholly devoid of antitoxic properties, but its chief value was in the destruction of the micro-organisms. The figures were based on 322 cases treated in this country and abroad, which he had analyzed. Of 247 in this country, 68 died and 179 recovered, a case mortality of 27 per cent. That included not a few treated very late, and some treated early but in which the conditions were desperate, and some in which death occurred within twenty-four hours after the injection. Some underwent a marvelous change after one or two injections. There were 13 under one year of age; the youngest 4 weeks; of these 5 died and 8 recovered, a case mortality of 37.5 per cent. The child 4 weeks old recovered. There were 26 between one and two; the mortality of this series being precisely the same; 45 between two and five, of which the mortality was 22 per cent.; 62 between five and ten, of which the mortality was 11 per cent.; 57 between ten and twenty, of which the mortality was 28 per cent., and finally 44 over twenty, of which the case mortality was 45 per cent.; 47 terminated by so-called crisis and 124 by so-called lysis. He emphasized that there occurred in these cases a sudden and prompt termination of the disease: 72 of the 322 cases came from Great Britain, in which the mortality was 30 per cent., the previous mortality, not treated with the serum varying from 75 to 80 per cent. He felt that as a therapeutic agent directed to such a serious disease it should not be adopted too soon, but should be given the most thorough test until such time as there could be no doubt and it should be made by those who have observed the disease before the introduction of the serum and since. Certainly the disease was apparently modified in its intensity and whether the mortality was greatly reduced or not that was of considerable importance.

Diagnostic Value of the Chemical and Bacteriologic Examination of Cerebrospinal Fluid.

DR. ALFRED HAND, JR., Philadelphia, referred to the importance of the exact diagnosis of the disease and said lumbar puncture furnished the means for such diagnosis. Interpretation of the fluid was sometimes easy and sometimes very difficult. If the fluid shows marked opalescence, which disappears as the fibrin forms, and the fibrinous net-work contains tubercle bacilli, diagnosis is positive. The diplococci may be found in the pus cells or in the fluid, but usually in the fluid. The fluid may be very slightly turbid so that it is difficult to recognize it. Examination should be made as soon after the fluid is obtained as possible and loopfuls transferred to slide and stained immediately. Test tube containing the fluid may be allowed to stand several hours that the fibrin net-work may be formed, which is transferred to slide with needle, spread out and fixed by heat. Chemical examination of the fluid for albumin may be made at this time. Normal amount of albumin about 0.5 per cent. Half of the fluid may be used for the phenol-hydrazin test for sugar. Examination may then be made for the pneumococcus or meningococcus. Differential count of leucocytes of great value when it can be made.

Hydrocephalus of Meningococcus Origin, with Remarks on the Serotherapy.

DRS. J. H. MASON KNOX, JR., and FRANK J. SLADEN, Baltimore, reviewed the literature of the subject and said that they believed the use of the serum would do much to prevent the development of hydrocephalus. They reported two cases treated with the serum; one a boy of 15, with very severe in-

fection, ill ten days when first seen; meningococci in the fluid; improved markedly in three days; developed otitis media and paracentesis of both tympanic membranes done; hearing impaired but better when he left hospital. Second case, child of 7, seen early in the disease; received but two doses; after the first symptoms markedly improved and after the second uninterrupted convalescence. Dr. Sladen had gone carefully over the cases of meningitis before the use of the serum and found of 33 cases, 21 died and 12 recovered; lowest mortality in any one year, 43 per cent. In the last four and one-half months 21 cases admitted; all treated by lumbar puncture and injections of serum; of these 3 died and 18 recovered; mortality of 14 per cent.; the three fatal cases were of unusually virulent type.

Serotherapy of Cerebrospinal Meningitis.

DRS. CHARLES HUNTER DUNN, Boston, and FRANK SPOONER CHURCHILL, Chicago, each read a paper on this subject, reporting cases. The articles appear in full in this issue of THE JOURNAL, on pages 15 and 21, respectively.

Other Methods Compared to Serotherapy of Cerebrospinal Meningitis.

DR. HENRY KOPLIK, New York, said it was often apparent in considering the therapy of any disease that we sometimes lose sight, in the presence of some favorable results, of the nature of the affection, and in no disease was this more common than in cerebrospinal meningitis. As had been pointed out by Osler this disease closely resembles pneumonia in its behavior. It occurs sporadically and epidemically. In the sporadic cases we rarely meet with the severe forms. It had to be admitted that on the whole the symptomatology of the sporadic and epidemic forms was alike, but the sporadic form runs a much milder course than the epidemic form. The sporadic form rarely reveals purulent fluid at the onset. Dr. Koplik had the records of sporadic cases treated since 1899 up to the epidemic years of 1904-5. The symptomatic treatment was begun in 1899. This consisted in careful study of the symptoms and lumbar puncture repeated as often as symptoms warranted it. During 1899 and 1900 there were 8 cases of meningococcic type; during 1901 to 1903, 13 cases, thus making 21 sporadic cases. Of these, 8 patients died, a mortality of 38 per cent. Of these 8, 6 were below one year of age. There were 2 recoveries in those below one year, and 2 between the ages of one and two.

In the epidemics of 1904-5 the history of the disease was a more virulent one; some died a few hours after admission. In the first epidemic year there were 39 cases and 21 deaths, a total mortality of 53 per cent. Of these 21 deaths 13 were below thirteen years of age; 26 above the age of two. Of these 9 died, a mortality of 34 per cent. In 1905 there were 35 cases, of which 17 died, a total mortality of 48 per cent. Of the 17 deaths, 10 were below two years of age. The mortality was practically 100 per cent. in those under one year of age. Thus in the two epidemic years there were 51 cases above two years of age with a mortality of 31 per cent. There were 23 cases in these two years below two years of age, of which 78 per cent. died outright.

In the sporadic cases simple lumbar puncture saved four children below two years; in the epidemic form none were saved. Dr. Koplik did not believe in puncture unless there was distinct indication for it. To be punctured the patient must have symptoms of pressure. The serum was introduced not by a syringe but by a funnel and an attempt made to introduce the same amount of fluid that was drawn off. In the thirteen cases treated with the serum the ages varied from 3½ to 5½ years; three were below 1 year. Of those below 1 year one was discharged at 10 months. Those over 2 years recovered. In the children below 1 year that died the youngest, 3½ months, had been ill two weeks on admission.

DISCUSSION ON SEROTHERAPY OF MENINGITIS.

DR. L. EMMETT HOLT, New York, said statistics were collected of 2,350 cases in the epidemic of 1904 in New York, of which the mortality, all non-serum treated, was 75 per cent., and of 350 cases in which the duration of the disease was known, 50 per cent. lasted five weeks or longer. This was very striking in comparison with the cases reported at this meeting. During epidemic years they treated 83 cases and lost every case under one year of age. He considered the showing very encouraging.

DR. THOMAS MORGAN ROTCH, Boston, was loath to speak of epidemic and sporadic cases; the organism ruled the disease; it did not differ in any essential way. Ward trial showed that the injections did no harm and he considered this a very important point as there was no time to wait; the injections should be given at once. He believed that sometimes life might be saved by injecting twice in the twenty-four hours. If the treatment were pushed many of the distressing sequelæ might be avoided.

DR. FRANK J. SLADEN, Baltimore, said that in 21 cases in Dr. Barker's clinic the effect had been just about as described by Dr. Churchill and Dr. Dunn—a rapid drop in temperature within twenty-four hours. There was increase in polymorphonuclear leucocytes after one injection. Extracellular organisms found in the first specimens were intracellular in subsequent ones. The bacteria were destroyed—lost their staining characteristics and viability, suggesting a bacteriolytic property. The rapidity with which the symptoms disappeared also suggested an antitoxic property.

DR. A. JACOBI, New York, thought that where subnormal temperature was noted it was due to a complication not yet understood and might be treated with something in addition to the serum, as alcohol was used in the treatment of diphtheria sometimes where the antitoxin did not benefit. He considered the results shown very encouraging.

DR. JOHN LOVETT MORSE, Boston, said that when the organisms were found in the cells and outside the cells and a culture was obtained and then the next day after giving the serum no organisms were found outside the cells and a diminished number within the cells, and no cultures, there could be no doubt. He thought lumbar puncture should be done on suspicion of the disease; one should not wait for signs of increased pressure. He thought the serum should be used early and often, at least once a day and sometimes oftener.

DR. W. W. WILKINSON, Washington, D. C., said that of ten cases treated at the Garfield Hospital there were seven recoveries and three deaths, and of the three patients that died one had chronic hydrocephalus on admission, one was not given large enough doses at first, and the other was in a comatose condition when treatment was begun.

DR. SAMUEL S. ADAMS, Washington D. C., emphasized the fact that by this treatment the distressing sequelæ of the disease were lessened. He had had one case in a child of seven months in which the pressure was so great that it burst through the fontanelle; improved markedly after the first injection. In a boy of thirteen with most intense symptoms, opisthotonos and convulsions, there was complete recovery. He thought the treatment offered better results than any other method of the past three decades.

(To be continued.)

NEBRASKA STATE MEDICAL ASSOCIATION.

Fortieth Annual Meeting, held in Lincoln, May 19-21, 1908.

Governor's Address of Welcome.

GOVERNOR SHELDON spoke of the gratitude of the state as a whole and of himself personally for the work done and the advancement made in medical legislation since the organization of the State Medical Association. He urged physicians to take a more active part during the next legislature. They better than any other class of citizens know the true cause of so many degenerates. Coming in contact as they do with the home life they know the causes of degeneracy and realize that it is high time in this country that steps should be taken to regulate the marriage laws. Governor Sheldon said it was well enough to pay attention to the divorce laws, but that it would be much better to regulate the marriage laws and thus

strike at the root of the trouble. He expressed himself as heartily in favor of a law that would allow no one to marry without a certificate from a physician of good standing, stating that they are capable of bearing healthy offspring and urged the men of the medical profession to be present at the next session of the legislature with some ideas, if not a bill prepared, along these lines.

DR. F. A. LONG, Madison, responded to the address of welcome.

At 7:30 p. m. Tuesday the President's reception was held and the President delivered his address.

Officers Elected.

The following officers were elected: President, Dr. L. M. Shaw, Osceola; vice-presidents, Drs. F. J. Rosenburg, Lexington, and F. E. Coulter, Omaha; secretary, Dr. A. D. Wilkinson, Lincoln; treasurer, Dr. V. S. von Mansfelde, Ashland; corresponding secretary and librarian, Dr. H. W. Orr, Lincoln; delegates to the American Medical Association, Dr. H. Gifford, Omaha; alternate Dr. R. A. Mitchell, Lincoln.

The officers for the various sections were chosen as follows: Section on Surgery—Chairman, Dr. J. P. Lord, Omaha; secretary, Dr. R. R. Hollister, Omaha. Section on Medicine—Chairman, Dr. A. Dunn, Omaha; secretary, Dr. H. J. Lehnhoff, Lincoln. Section on Gynecology and Obstetrics—Chairman, Dr. Palmer Findley, Omaha; secretary, Dr. Georgiana Grothan, Kearney.

The next meeting will be held in Omaha.

DR. E. J. C. SWARD, Oakland, secretary of the State Board of Health, made an exhaustive report of the recent work done by the State Board of Health and made important recommendations as to legislation affecting the collection of vital statistics and the regulation of matters of state sanitation.

Use of Plaster of Paris in the Treatment of Deformities.

DR. H. WINNETT ORR, Lincoln, directed attention to the fact that the popular belief in curative influence in mechanical appliances in the treatment of deformities is usually erroneous. The usual method of applying to a brace maker for treatment of all kinds of deformities leads to unfortunate delay of proper surgical and other orthopedic measures. The necessity of adequate preliminary treatment before the application of apparatus or plaster of Paris was pointed out. The points which characterize the modern treatment of deformities are the use of the open method in dividing resistant structures before attempting correction and the use of muscle and nerve transplantation to restore destroyed functions and to do away with the overaction of contracted muscles. The great usefulness of proper application of plaster of Paris and other mechanical devices in the subsequent treatment after operation was shown. Three patients were presented to illustrate the use of plaster of Paris in postoperative treatment for torticollis, hip-joint operations and also in the treatment of lateral curvature.

Acute Glaucoma.

DR. D. C. BRYANT, Omaha, read a paper covering the etiology, diagnosis, pathology and treatment of acute glaucoma and the facts on which a prognosis may be based.

Blastomycosis of the Skin.

DR. C. L. MULLINS, Broken Bow, reported a case of cutaneous blastomycosis with a complete account of the patient's symptoms and a consideration of the differential diagnosis. In addition to the clinical report and details of treatment the microscopic findings were given. He also reviewed briefly the literature of the subject and the laboratory methods for the examination of material suspected to be of this character.

Dilatation of the Stomach.

DR. H. L. AKIN, Omaha, classified dilation of the stomach into three groups: 1, the physiologically dilated stomach; 2, dilation produced by gastroptosis; 3, true dilatation. The last he selected as his subject for discussion. He discussed the factors which enter into production of dilated stomach and pointed out the conditions in which a dilatation may be brought about where either the motility was diminished or the total of contents plus resistance were disproportionately increased. As factors in the etiology he listed the various forms of indigestion and the means to be used in making a diagnosis. Under the head of treatment lavage was urged. He recommended dietetic treatment, which while necessarily variable must be accorded most careful consideration. Supporting bandages are often of assistance to the overtaxed stomach muscles. Of medicines nux vomica and strychnin are the most important therapeutic agents at our command.

Pulmonary Tuberculosis.

DR. W. H. MICK, Denver, reported a series of twelve patients in whom a microscopic diagnosis of pulmonary tuberculosis had been made. He argued in favor of proper exercise and massage, outdoor treatment, the use of *x*-rays, which he claimed have a beneficial effect on all tuberculosis conditions, arguing that if patient did not improve in from 60 to 90 days a change in climate should be insisted on. He says that too many patients have been kept at home so long that they fail to be benefited by a change in climate or tent life. He stated that patients who improve from tuberculosis in high altitudes must remain permanently. Patients should be taught to control the cough and he asserted that tuberculin does more harm than good and argued in favor of streptolytic serum.

Conservatism in the Treatment of Appendicitis.

DR. O. GROTHAN, Kearney, asserted that at the present time the manner of performing an appendectomy was not so important a topic for discussion as whether it should be performed at all. He argued that those who have operated in every case had encouraged a great deal of untimely surgery. Dr. Grothan lamented the fact that the profession could not agree on a method of treatment advocated some years ago by Ochsner, Robinson and others and argued in favor of expectant treatment with the use of opiates, relieving flatulence by rectal irrigation and complete restriction of nourishment by the mouth. The operative treatment was severely criticized and it was urged that it be used only in exceptional and very urgent cases.

Appendicitis.

DR. H. W. QUIRK, Crete, read a paper on appendicitis in which he reviews very carefully the embryology and anatomy of the abdominal cavity, especially as relating to the changes which take place in the cecum and appendix. He also reviewed the diagnosis and treatment of appendicitis from a historical standpoint and quoted extensively from literature in regard to the changes which have taken place in ideas regarding these points. He argued for the discontinuance of the opium treatment and is in favor of controlling the pain by the application of ice. He claimed that by such means he was able greatly to relieve his patients and carry many through an acute attack.

Purin Autointoxication Due to the Non-Use of Meat.

DR. R. J. MIDGLEY, Omaha, directed attention to the views of modern clinicians with regard to uric acid diathesis. He particularly quoted Osler and von Noorden as to their views on these questions. He pointed out that the methods of formation of uric acid in the body would be a question of only ordinary interest except that when it is present in excessive amounts we must have means at hand for promoting its combustion and elimination. Purin on the other hand must be estimated indirectly in as much as any quantity present in the body at any given time depends on the presence or absence of their destroying the enzymes. Some patients take an excess of purin-containing food while in others there has been no abnormal intake, but on account of faulty metabolism purins have accumulated. The therapeutics of these two classes of patients must necessarily therefore be quite different. He concludes that if there is a purin autointoxication it can arise from defects of meat in diet, also that this form of purin poisoning can be cured by the use of meat. Hyperacid urine is

not always due to meat eating, but meat may be used as an antacid. Meat is not to be prominent in the diet except for good cause and dietetics should have more general attention.

Acute Dilatation of the Stomach.

DR. A. S. MCKINNON, Lincoln, said that this condition seems to occur most frequently following laparotomy. After a review of the literature Dr. McKinnon reported two cases in which the patients presented the classical symptoms. The first patient, aged 17, died the fourth day following operation, while the second improved without the stomach having been made the subject of operative treatment.

First Aid in Fractures.

DR. A. B. ANDERSON, Pawnee City, quoted the remark of the late Dr. Senn that bad results following fractures have been the tombstone of an otherwise brilliant career of many ill-fated practitioners. The treatment of fractures is often undertaken by absolutely inexperienced physicians. He pointed out the dangers of the improperly applied fixed dressings and emphasized the importance of a careful consideration of the patient's general condition as well as of the local injury in making a diagnosis and applying treatment. He also emphasizes the importance for careful consideration of injury to soft parts associated with the fractured bone and reported cases illustrating some of the bad results that may follow inadequate diagnosis and improperly applied dressings. In conclusion he outlined some of the methods to be used in the treatment of ordinary fracture.

Fractures: Symptoms and Diagnosis.

DR. S. C. BEEDE, David City, discussed the general symptoms of fractures and pointed out the subjects of error in diagnosis. He emphasized crepitus as a positive sign of fracture. He emphasized the necessity for taking into careful consideration the history of the injury and took the position that an examination should not be made except in an emergency until this had been done. The value of *x*-ray was pointed out, but it was emphasized that careful interpretation of the findings based on thorough anatomic knowledge was absolutely necessary.

X-Ray in the Diagnosis and Treatment of Fractures.

DR. JOHN PRENTISS LORD, Omaha, pointed out that the use of the *x*-ray has disclosed the frequency with which imperfect apposition of the fragments has been obtained by the ordinary method of treatment of fractures. *X*-ray illuminations have rendered necessary not only great care in diagnosis and treatment but we must now explain to our patients the fact that exact apposition and perfect union are the exception rather than the rule. The *x*-ray has solved many of the problems of diagnosis and treatment and has eliminated a large part of the guess work in this branch of surgery. The medico-legal phase of the subject was dismissed with a suggestion that we should be more careful in our statements to patients when they think that the *x*-ray picture shows a bad result even when the functional use of the extremity is unimpaired. One radiograph of a fractured bone is inadequate to establish a conclusion in regard to these injuries.

Open Treatment of Fractures.

DR. A. C. STOKES, Omaha, took the position that while most fractures fall under the care of the general practitioner they, as a rule, require the most advanced surgical skill. He pointed out the fact that operative treatment under proper precautions would produce more ideal results in fractures but emphasized the fact that in his own experience the most careful observance of surgical technic did not always protect him from having infections after operating on recent fractures. He discussed in some detail the technic of open operation for fractures of the end of the femur and spiral fractures of the shaft. He concludes that recent literature points to conservativeness in operative treatment. Many bad results are the result of inadequate diagnosis and imperfect reduction. The *x*-ray must be used. Fractures treated by operation heal more slowly than by the usual treatment. The callus formed is larger after operation. Fracture operations are very liable to infection. The use of wires, screws, nails, etc., is to be avoided.

The Lower Femoral Epiphysis.

DR. B. F. LORANCE, Auburn, reported a case of severe injury in a boy of nine to the soft parts of the thigh just above the knee, associated with separation of the epiphysis from the femur. The lower end of the shaft protruded through the wound a distance of about four inches. Although there was extended sloughing the patient obtained a good result.

Fractures of Condyles of the Humerus.

DR. D. J. REID, Crab Orchard, asserted that fractures into the joint would not result in ankylosis if they were uncomplicated and properly handled in the matter of a change in dressings, etc. He urged that the deformity in many of these fractures should be remedied by open operation. He recommended that the arm be dressed in complete flexion with a change in dressings on the seventh or eighth day in a new position. He emphasized the importance of dressing the arm in flexion so that in case of ankylosis an arm useful for all ordinary uses could be obtained.

Other Papers Read.

The following papers were also read:

"Deviation of the Septum," W. R. Hobbs, Omaha; "Bier's Hyperemia," C. W. M. Poynter, Lincoln; "Diagnosis," F. W. Conwell, Neligh; "Ruts—Fads—Improvements," F. A. Weir, Hastings; "Static Electricity," F. A. Wells, Strang; "Adding a Grain of Salt to Professional Ethics," C. J. Alger, Leigh; "Puerperal Infection with Special Reference to Prevention and Treatment," Georgiana Grothan, Kearney; "Treatment of Pneumonia," J. M. Mayhew, Lincoln; "Retroflexion of Uterus," W. O. Henry, Omaha; "Foreign Bodies in the Abdomen," Palmer Findley, Omaha; "Operative Treatment of Cancer, with Special Reference to Cancer of the Breast," J. E. Summers, Omaha; "Malnutrition and Society," I. C. Philbrick, Lincoln; "Nutritional Diseases in Infants," H. M. McClanahan, Omaha; "Drug Therapeutics," B. X. Corbin, Schuyler; "Congenital Disease of the Heart," J. Stanley Welch, Lincoln.

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Philadelphia, May 20-22, 1908.

(*Continued from page 2106.*)

The Weight of the Brain as Influenced by Nutrition or Disease.

DR. H. H. DONALDSON, Philadelphia, reported his experiments with the brains of white rats and compared these results with those observed in men. It was found that the normal brain weight begins to decrease early in life, in man in the eighteenth or twentieth year. In disease the loss of weight is greater in chronic than in acute diseases. While the loss in weight of the other tissues of man in disease amounts to 24 per cent. that of the brain is only 3 per cent. As a result of improper nutrition in otherwise healthy subjects the brain weight is reduced 4 per cent. There is no loss in the spinal cord in either case.

DISCUSSION.

DR. J. J. PUTNAM, Boston, asked on what structures in the brain the loss chiefly falls, whether on the nerve elements or the myelin sheath.

DR. B. SACHS, New York, asked if the loss in brain weight is greater or less than that of other organs or whether the brain simply partakes in the general deterioration of nutrition.

DR. DONALDSON said that the only element of loss studied was the amount of water which was found to be greater in amount in the diseased or poorly nourished brain. He said the whole reason for the inquiry was to show the truth or falsity of the general belief that the brain is unaffected by general disturbance of the body. The loss is more than in the skeleton but less than in the muscles. No comparisons had been made with other viscera.

DR. E. C. SPITZKA, New York, said that in the study of brains of distinguished men allowance had repeatedly been made for a decrease in weight up to 150 grams.

A Brain Tumor Localized and Completely Removed, With Symptomatology of Lesions Variously Distributed in the Parietal Lobes.

DRS. CHARLES K. MILLS and CHARLES H. FRAZIER, Philadelphia, reported the case of a woman 45 years of age, in whom the dominating focal symptoms were left lateral homonymous hemianopsia and hemiataxia, the latter especially in the upper extremities. There were slight hypesthesia, hypastereognosis and hemiparesis. The general symptoms were double optic neuritis, headache, occasional vertigo, nausea and vomiting. Some mental apathy and marked depression were present. A large parietal osteoplastic flap was raised and at the upper back part of the opening a large cyst was revealed. This was emptied and the entire sac removed. The patient made a good recovery from the operation. All focal symptoms disappeared but the hemianopsia which is gradually improving. The optic neuritis subsided slowly.

DISCUSSION.

DR. B. SACHS, New York, said that in four cases of his in which the tumor could not be located as there were no localizing symptoms, the optic neuritis was improved very much by exploratory operation. He believes in exploratory operation in such cases, where the tumor can not be localized.

DR. CHARLES E. BEEVOR, London, said that he had had a patient very much like this one on whom Victor Horsley operated. There was improvement but the hemianopsia persisted. The difference he thinks is due to the depth to which the tumor extends. If it extends deeply and destroys the optic radiations there will be no improvement in the hemianopsia.

DR. J. J. PUTNAM, Boston, reported the case of a patient with endothelioma of the cerebellum operated on with removal of the tumor and who continued to do well five years after the operation. In a case of hemianopsia in which the tumor was at the base of the brain involving the fifth nerve on both sides a decompression operation gave excellent results.

DR. M. ALLEN STARR said that he is in favor of decompression operation. He has had excellent results in two cases recently. There are cases which result in large hernias and death, but if one in ten can be saved the operation is justifiable. He agreed that brain operations should be done in one stage and that the surgeon should do everything to hasten the operation and diminish shock.

DR. THEODORE DILLER, Pittsburg, said that he also is in favor of the decompression operation. He had a patient recently who showed 7 diopters of optic neuritis. Ten days after operation the patient was completely relieved of headache and although his vision was only 5/200 before the operation, he could afterward read a typewritten page.

DR. MILLS said that he is in favor of the decompression operation, but that this case was presented, not as one of decompression but of radical cure.

DR. CHARLES H. FRAZIER, Philadelphia, said, in closing, that he quoted the statistics which place the operable tumors at 6 per cent. because he thought that the opinion of the medical profession, but that in his own case the operable tumors were from 15 to 20 per cent. He believes that if we would explore more routinely we would find the tumor oftener than we do and that we would find them earlier and thus get a greater percentage of operability.

Hysterical Insanity, With Report of Illustrative Cases.

DR. THEODORE DILLER and DR. GEORGE J. WRIGHT, Pittsburg, stated that hysteria may express itself chiefly by mental symptoms constituting a psychosis which may counterfeit the various other psychoses more or less closely; and this occurs more frequently than is commonly supposed. The recognition of hysterical insanity is important both from the prognostic and the therapeutic points of view. Inconsequential answers to which Ganser directed attention have done much to aid in the diagnosis and to create interest in the subject of hysterical insanity. Inconsequential and paradoxical conduct are often seen and are of great diagnostic value. On the negative side hysteria presents a psychosis which does not conform to the pattern of any of the ordinary insanities. The theatrical and dramatic features seen in hysteria generally are to be observed in the hysterical psychoses.

DISCUSSION.

DR. CHARLES L. DANA, New York, said that every writer has a different conception of hysteria, so that the subject is very puzzling. We could get along better if the term hysteria were dropped entirely. He does not think we will ever get a clear idea of psychoses so long as we try to establish an hysterical psychosis. He has never seen any clear-cut picture which he could qualify as belonging to this group although he has seen hysteria combined with some form of insanity.

DR. HENRY R. STEDMAN, Boston, said that if there is such a thing as hysterical psychosis, it must be based on physical stigmata. He has seen few cases of that type and thinks the term hysterical insanity is disappearing from our nomenclature.

DR. DILLER said that it is hard to define insanity and that he is unable to define hysteria. He thinks hysterical insanity is hysteria which presents such profound, prolonged exaggerated mental symptoms as to constitute the person in the ordinary practical way an insane person.

(To be continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-first Annual Meeting, held at Philadelphia, May 26-28, 1908.

(Continued from page 2102.)

The Heart in Shock.

DR. EUGENE BOISE, Grand Rapids, Mich., said it is generally conceded that the element of danger in shock is the very low blood pressure. It is also generally believed that the cause of this low blood pressure is vaso-motor paralysis. Dr. George W. Crile adopts this theory as the result of a large number of experiments. The author thinks that the conclusion of Dr. Crile is erroneous. Dr. Howell speaks of a cardiac shock in which the low blood pressure is due to cardioinhibitory exhaustion. Dr. Yandell Henderson thinks that shock is due to a deficiency of carbon dioxid in the blood, and that when death occurs suddenly in shock the heart is tetanically contracted. A series of experiments have apparently demonstrated that in shock the heart is in a state of tonic contraction, the degree of which varies with the degree of shock, and that treatment directed to the relief of this condition is the correct treatment for shock.

Pernicious Anemia in Pregnancy.

DR. PALMER FINDLEY, Omaha, reviewed the literature and then presented a clinical report of a case with the postmortem findings in both mother and child. As the result of his observations, he presented the following summary: (1) Pregnancy and the puerperium exercise a favorable influence on the development of pernicious anemia. (2) Women are more liable to pernicious anemia during pregnancy and the puerperium than at any other time. (3) There is no satisfactory explanation for the effect of pregnancy on the development of pernicious anemia. Frequent child-bearing, prolonged lactation, overwork, and malnutrition are predisposing factors. (4) There is a remarkable uniformity in the clinical phenomena and postmortem findings. (5) The onset of anemia is usually in the latter half of pregnancy. (6) The diagnosis is not possible at the onset, but is later determined by exclusion of other possible forms of anemia by blood examination, fatal termination, and finally by postmortem examination. (7) The child usually dies in utero or shortly after birth and has never been observed to show pernicious anemia. Spontaneous interruption of pregnancy is the rule. (8) In all well-established cases the disease has proved fatal.

DISCUSSION.

DR. RICHARD C. NORRIS, Philadelphia, has seen only one case of pernicious anemia in over 3,000 deliveries. The patient in this case entered the hospital shortly before she was delivered with only 12 per cent. hemoglobin. A characteristic of labor was a refusal of the patient's blood to clot. There

was considerable oozing from the uterine cavity which persisted so as to require intrauterine packing and the use of adrenalin to control hemorrhage. The woman, however, finally died from this persistent oozing from the uterine cavity.

Suggestions in Teaching Gynecology.

DR. JOHN A. SAMPSON, Albany, N. Y., demonstrated special mechanical charts as an aid in this work, and said that three phases in the study of any of the clinical branches of medicine naturally suggested themselves: (1) The study of each disease as a science, namely, its cause, the changes in anatomy in its different stages, and, particularly important, the explanation of its symptomatology; (2) the classification of symptoms and the study of the various causes of each symptom and how these causes may be differentiated; (3) the art or technic of the clinical branch of medicine, namely, taking of the history, physical examination, diagnosis and treatment, and importance of clinical experience on the part of the student in the dispensaries, wards and hospitals or in private practice.

Hospital Gynecology.

DR. ROBERT L. DICKINSON, Brooklyn, N. Y., spoke of gynecology as a separate department, and described the character of hospital as affecting this. He spoke of the working adjustments between surgery and gynecology, and of the relations between assistants and house staff. He believes that there should be uniformity in technic where the operators are numerous, and thinks there should also be standard schedules of preparation, of outfit, of after-care, etc. He spoke of the methods of exhibiting or guarding the histories of cases in wards, and also discussed the question of files, indexing, the inter-relation of hospital and dispensary.

DR. I. S. STONE, Washington, D. C., read a paper on "Surgical Treatment of Prolapse of the Uterus and Bladder."

DR. HUGO EHRENFEST, St. Louis, Mo., contributed a paper with the title "Endometritis Exfoliativa."

Operations for Relief of Pelvic Diseases in Insane Women.

DR. LEROY BROUN, New York, described the operations performed during the last five years at the Manhattan State Hospital.

The pathologic conditions existing were alone considered; no account was taken of the mental state of the patients. The character of the mental disturbance was in the majority of instances unfavorable, in that the chance of a mental recovery was not good. Such patients, however, have an equal right to be given physical relief when needed. The patients receiving marked stimulus to mental recovery are those suffering from the form of insanity known as manic depression. The best results are obtained when operations are undertaken before the psychosis becomes a fixed habit. The character of the operation does not appear to have any relation to the mental benefit resulting.

Symposium on Intrapelvic vs. Abdominal Method of Dealing With Mechanical Obstruction to Delivery.

DR. RICHARD C. NORRIS, Philadelphia, referred to the factors to be studied before or during labor that promise spontaneous delivery or safe operative assistance. The actual test of labor should not be abandoned. He spoke of the methods and value of fetometry, of pelvimetry and of studies to determine the character of membranes, of cervix and of uterine energy. The status and methods of induction of premature labor for minor degrees of relative disproportion were described and personal statistics given. He spoke of the value and limitations of forceps and version. He referred to the circumstances which justify section of the pubic bone. Pubiotomy is preferable to symphyseotomy. The accidents of pubiotomy are best avoided by the most approved technic and by skilled operative delivery which includes complete preliminary dilatation of the birth canal.

DR. EDWARD REYNOLDS, Boston, said that: (1) In the absence of mechanical difficulties, intrapelvic methods are always preferable. (2) Throughout obstetrics a low maternal mortality is the most important of all considerations, and this should determine the choice whenever it is markedly variable as between the two methods. (3) Comparison should be made of maternal mortalities under differing conditions. (4) Similar comparison of the fetal mortalities and the maternal and fetal morbidities should also be made whenever the maternal mortalities are equal. (5) In difficult cases in which the necessity for some form of operative procedure can be safely predicted in advance the patient should be submitted to primary Cesarean section. (6) Limitations of the possibility of such prediction.

DR. EGBERT H. GRANDIN, New York, said that the operation of election in hospital practice and the ideal operation in both hospital and private practice is the elective Cesarean section by the abdomen. Careful consideration of these instances from every standpoint shows that such section, other things being equal, carries less risk to the woman. Symphyseotomy and pubiotomy, from the standpoint of the child, were considered. Under absolute indications the choice lies between embryotomy of the living fetus and abdominal Cesarean section. Both the Dührrsen operation and the vaginal operation are of the emergency type, and concern not so much dystocia as conditions calling for rapid delivery, such as the acute toxemias, and very rarely placenta prævia. The Dührrsen operation is alone allowable where the vaginal portion of the cervix has emerged into the lower uterine zone. The vaginal Cesarean section is alone allowable where the vaginal portion of the cervix is intact. It stands to reason that where the pelvis is too small for the given child or the child is too large for the given pelvis, both the Dührrsen and the vaginal section are contraindicated, except as measures precedent to embryotomy.

DR. BARTON COOKE HIRST, Philadelphia, made a plea for conservatism in restoring Cesarean section. A large number of these operations are only justifiable in clinics to which the patients are transported without previous medical observation. The indication of labor two or four weeks before term obviates the necessity for the majority of Cesarean sections and should be resorted to more frequently.

DR. A. LAPTHORN SMITH, Montreal, said that the operation of Cesarean section has been so perfected that when performed by an experienced abdominal surgeon it has now hardly any higher death rate for mother and child than normal labor. This can not be said of prolonged application of forceps nor of even the best of the subpubic methods.

Development of the Technic of Gynecologic Operations.

DR. AUGUST MARTIN, Berlin, Germany, reviewed the work done by gynecologists in the past fifty years, and said the basis of the increasing value of gynecologic operations is the advance in anatomy, normal and pathologic, and in diagnosis. Asepsis insures surgical results. He said there are two routes discussed to-day, the abdominal and the vaginal; and he described the indications and limitations of each.

Abdominal and Vaginal Celiotomy; Their Indications and Technics.

DR. F. PFANNENSTIEL, Kiel, Germany, pointed out that either method is available for the majority of gynecologic operations. The route which gives primarily and secondarily the best chances of life and health for the patient is to be preferred. In all intraperitoneal procedures the best chances are given by abdominal celiotomy, as it affords the better opportunity for either radical or conservative work. In aseptic cases, tumors, extrauterine pregnancy, chronic inflammations, malformations, etc., the abdominal route is preferable. In septic cases, when the indications are that the infectious matter can be completely removed, the vaginal route is preferred, unless a complete view of the whole operative field and its surroundings is necessary. Except in early invasion of the cervix, all cases of cancer are better treated by the abdominal route; also when involvement of the appendix is suspected. Vaginal operation accomplishes most in all cases of prolapsus or descensus (genitoptosis) and movable retrouterine displacements. Here neither suspension nor the Alexander operation with or without colporrhaphy is permanent. Anterior and

posterior vaginal celiotomy are used, sometimes the one, sometimes the other, and, if necessary, both. The author then pointed out the advantages of the Pfannenstiel transverse abdominal incision.

Vertical and Horizontal Amputation of the Uterus.

DR. HOWARD A. KELLY, Baltimore, said that supravaginal hysterectomy in women under forty is too radical if it can be avoided. He spoke of subsection of the body of the uterus as being a better plan, retaining the uterine mucosa, cutting the flow down to normal, and preserving the function of mentsruation. He then described the methods of vertical and horizontal subsection of the uterus.

Cesarean Section Necessitated by Previous Ventrofixation.

DR. EDWIN B. CRAGIN, New York, said that for dystocia following ventrofixation to occur six times in the experience of one man, and to be so marked as absolutely to indicate Cesarean section, is sufficient evidence of the frequency of this sequel to the operation. As these fixation operations were all performed by different operators, the personal equation is eliminated. In spite of attention being called to the possibility of this unfortunate sequel to two ventrofixations, ventrosuspension is still quite frequently performed. An intended ventrosuspension may become a ventrofixation by accidental wound infection. A ventrosuspension which allowed an easy labor with a febrile puerperium in the first postoperative confinement, may become a ventrofixation and demand a Cesarean section for the next delivery, as occurred in the last of this series. During the child-bearing age, ventrofixation is not a safe operation for posterior displacement of the uterus.

Is Pubiotomy a Justifiable Operation?

DR. J. WHITRIDGE WILLIAMS, Baltimore, stated that in thirteen operations performed by the author or his assistants there were no maternal deaths, only one woman being seriously sick. All began to walk by the end of the third week and were dismissed in good condition less than one week later. In one-third of the cases there was permanent mobility between the cut ends of the bone. This did not interfere with locomotion, and possibly played a part in permitting subsequent spontaneous delivery in one patient. The operation is contraindicated when the true conjugate measures 7 cm. or less, and consequently does not enter into competition with Cesarean section. It is particularly applicable to the "border line" cases, as it affords a safe method of delivery after subjecting the patient to the test of several hours in the second stage, whereas the mortality of Cesarean section rises steadily with each hour elapsing after the onset of labor. If pubiotomy fulfils its present promise, it should entirely do away with the induction of premature labor in the treatment of contracted pelves.

Experimental Study of Hemorrhage and Its Possible Bearing on Ruptured Ectopic Pregnancy.

DR. HUNTER ROBB, Cleveland, said that attempts were made to cause lesions in dogs which would correspond in severity to those present in cases of ruptured ectopic pregnancies in women. Assuming that in these experiments conditions were produced similar to those occurring in ruptured ectopic pregnancies in women, the results suggested the following conclusions, as being worthy of consideration: 1. A woman suffering from a ruptured ectopic pregnancy does not die from the hemorrhage itself. Death was caused by hemorrhage and shock which might be increased by various procedures. 2. An immediate operation might add shock to shock and so prevent recovery. 3. The hemorrhage ceases in from 15 to 20 minutes. The fact that the hemoglobin remained stationary showed that clotting had taken place. A hemorrhage that had ceased might be started up by manipulation of the tissues, and might thus be mistaken for a continuing hemorrhage. 4. The subcutaneous injection of salt improves the pulse and respiration and did not start the hemorrhage up again. 5. The use of bandages or proper weights by which the abdomen walls were approximated was likely to improve the condition of these patients.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held April 22, 1908.

The President, DR. ALBERT M. EATON, in the Chair.

Demonstration of the Method of Taking the Opsonic Index.

DR. HARRY A. DUNCAN said that the theory of immunity as advocated by Wright puts most of the emphasis on the blood serum as the active protective substance of the body, especially that element of the blood which prepares the bacteria so that the leucocytes may ingest and destroy them. To measure the degree of resistance or susceptibility possessed by some patient to any disease caused by germs all that is necessary is to compare the action of the patient's blood serum on the bacteria in question with the action of the blood serum of some healthy individual. The influence of the serum on the germ is noted by observing the number of the germs which the polymorphonuclear leucocytes find suitable for ingestion. To take the opsonic index of a patient there is needed for the test, blood serum from the patient, blood serum from a healthy individual with which to compare it, an emulsion of the bacteria in question, and leucocytes washed free of all adhering serum. The blood serums are secured by centrifuging a few drops of blood which have been collected in a small pipette known as Wright's pipette. The bacterial emulsion is obtained by rubbing up in salt solution a culture of the germ in question grown on an agar slant. The corpuscles are cleaned of all their own serum by washing them repeatedly in salt solution and a 5 per cent. solution sodium citrate. The sodium citrate prevents clotting and the centrifuge separates the corpuscles from the washing fluids. Equal quantities of the patient's serum, washed corpuscles, and bacterial emulsion are drawn up into an opsonizing pipette, mixed and incubated for fifteen minutes at blood heat to give the serum an opportunity to act on the bacteria and the corpuscles a chance to ingest them. Equal quantities of the healthy serum, washed corpuscles, and bacterial emulsion are treated likewise in another opsonizing pipette. At the end of the fifteen minutes the contents of these pipettes are expelled on clean glass slides, smeared and stained. The number of bacteria ingested in 50 corpuscles acted on by the patient's serum are counted and compared with the number ingested by 50 corpuscles influenced by the healthy serum.

DISCUSSION.

DR. NATHANIEL BOWDITCH POTTER, New York, quoted some figures illustrating the difficulty in relying on the opsonic index. In opposition to this, however, he admits that it has some value. He believes the bacterial inoculations are useful in many instances.

DR. NATHANIEL GILDERSLEEVE regards the opsonic index of very moderate value for diagnostic purposes, but of more value in determining the size of the dose of vaccine and in interspacing the dose.

DR. G. MORTON ILLMAN'S experience with taking the opsonic index leads him to feel that it is fairly consistent. The greatest success clinically is observed in cases of tuberculosis and in staphylococcic and streptococcic conditions.

The Microscopic Diagnosis of Diseases by Blood Smears.

DR. L. NAPOLEON BOSTON outlined the clinical evidences of unquestionable value obtained through a microscopic study of the blood after it has been smeared on cover glasses or slides.

Given a blood smear without any further knowledge of the patient from whom it has been obtained, it is possible to make a diagnosis in but a small number of diseases, i. e., malaria, filariasis, chronic plumbism, trypanosomiasis, leukemia, chlorotic anemia, and anemias. The diseases in which such blood examination may support the further clinical study of the case in question are given as anemia with reference to the particular type, pneumonia, sepsis, trichinosis, infection with intestinal parasites, and all diseases where leukocytosis is present. It is further of service in connection with acute mania, melancholia, poisoning from both mineral and gaseous substances, and conditions resulting from malnutrition, e. g., syphilis, glandular tuberculosis, etc. A full consideration is

given to those diseases where living animal parasites are to be found in the circulating blood with an outline of the laboratory study.

DR. GEORGE W. NORRIS demonstrated the Jacquet cardiosphygmograph, an elaboration of the old clinical sphygmograph, capable of attachment to the wrist in the usual manner.

Medicolegal

Another Court's View of Power to Require Allowance of Physical Examination.

The Court of Appeals of Maryland says, on the appeal of United Railways and Electric Co. of Baltimore City vs. Cloman, a personal injury case brought by the latter party, that the defendant company moved the court to direct the plaintiff to permit the physicians of the defendant to make a physical examination of her, and also made another motion asking the court to direct her to submit to such examination by a physician to be appointed by the court. The authorities are conflicting on the subject. It is said that there is no record in the English reports of such an order, or even of such a motion. In the federal courts it is held that the court has no power to compel a plaintiff in an action for personal injuries to submit his person to a physical examination, and it was so decided in Union Pacific R. R. Co. vs. Botsford, 141 U. S. 250. The weight of authority seems to be to the contrary in the state courts of this country, although, while the power is admitted, many cautions and limitations are suggested, and the general rule is that it can not be demanded as a matter of right by a defendant, but the application is addressed to the sound discretion of the trial court, which will not be interfered with by an appellate court unless such discretion was manifestly abused. That seems to this court to be the correct view.

This court can not admit that the trial court has no such power in any case, for some times it may be apparent that a plaintiff is feigning, and has not suffered such injuries as he pretends he has sustained. Instances are not unknown to courts and counsel, who have had experience in such cases, in which jurors have been imposed on, and sometimes even reputable physicians, who have been called on to testify on behalf of plaintiffs, have been deceived. When, therefore, the ends of justice seem to require it, there can be no valid reason why an examination should not be permitted, if seasonable application is made, and the court is satisfied that no serious physical or mental injury is likely to be done the plaintiff.

Unless consent is given by the plaintiff to have the examination made by physicians of the defendant, the safe course is for the court to name some disinterested physician or physicians to make such examination; but the court and jury ought not to be required to rely on the testimony of experts employed or produced by the plaintiff, or that of the plaintiff himself, when there is any real question about the correctness of the evidence offered by a plaintiff in reference to the extent of his injuries. The practice of permitting such an examination would have a tendency to prevent frauds, which are sometimes perpetrated by dishonest plaintiffs in actions for personal injuries.

As to what is a seasonable time for such an application may depend on circumstances, but it ought ordinarily to be made before the plaintiff's case is closed, and, if allowed after that, the privilege should be given him to introduce further testimony on the subject. Generally it should be done in time to avoid unnecessary delay in the trial, unless the court is satisfied by affidavits or otherwise that the defendant is taken by surprise, and the delay is necessary for the ends of justice. It might be well to adopt the practice of requiring affidavits of counsel as to the necessity for such applications, and, of course, the court should be satisfied that the application is made in good faith, and not merely to affect the jury, in case of refusal to submit to the examination.

Competency as Witness of Physician Disclaiming to be an Expert.—Care of Viscera.

The Supreme Court of Missouri says that it was insisted in the homicide case of State vs. Daly, that a physician, who testified as an expert witness on the part of the state, and who subjected the viscera of the deceased to a chemical analysis, was incompetent to testify as such expert because he failed in his preliminary examination, and protested against being so denominated. But the court does not agree with the contention. It says that, while the witness did not claim to be an expert, and protested against being denominated such, the court thinks it was more because of modesty than lack of knowledge respecting the matters to which he testified as an expert, for he showed himself to be quite familiar with the subject then under consideration, and his testimony bore the stamp of truth and honesty. Besides, the question of whether he possessed the necessary qualifications to render him competent to testify in the character of an expert was a preliminary one to be passed on by the court after the examination of the witness. The weight of the testimony of this witness, like that of any other, was for the consideration of the jury.

What Constitutes "Serious Illness."

The United States Circuit Court says, in the case of Keiper vs. Equitable Life Assurance Society of United States, that the term, "serious illness," has been construed to mean such an illness as has, or ordinarily does have, a permanent detrimental effect on the system, or renders the risk unusually hazardous. What is to be understood by "serious illness"? If any sickness which may terminate in death, then it must embrace almost every distemper in the entire catalogue of diseases. The true construction of the language must be that the applicant has never been so seriously ill as to permanently impair his constitution, and render the risk unusually hazardous.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

June 11.

1 Modern Medicine and Surgery in the Orient. (To be continued.) J. E. Mears, Philadelphia.
2 *Modes of Infection in Tuberculosis. S. Von Ruck, Asheville, N. C.
4 Composition of Large Curds in Infants' Stools. F. B. Talbot, Boston.
5 Camphoric Acid, Its Action and Uses. M. V. Tyrode, Boston.

June 18.

6 *An Account of Dr. Louis-Daniel Beauperthuy, a Pioneer in Yellow Fever Research. A. Agramonte, Havana, Cuba.
7 Suture of the Patellar Tendon. C. F. Painter, Boston.
8 Notes on X-Light: The Resistance of an X-Light Tube is not an Accurate Indication of the Degree of the Vacuum. W. Rollins, Boston.
9 Modern Medicine and Surgery in the Orient. (Concluded.) J. E. Mears, Philadelphia.

2. **Infection in Tuberculosis.**—Von Ruck holds that the tubercle bacillus is liable to be inhaled with air contaminated by infectious dust or minute sputum droplets; also that primary infection by the digestive tract undoubtedly occurs, though its frequency can not be even approximately estimated, and is more frequent in children than in adults, while the origin of tuberculosis in the abdominal cavity is less frequent than it is in the chest. He says: "It is fortunate for practical prophylaxis or treatment that the relative frequency of the different modes of infection is not of great importance."

6. **Dr. Beauperthuy and Yellow Fever Research.**—Agramonte presents documentary evidence to show that, so far back as 1854, Dr. Louis Daniel Beauperthuy attributed the propagation of yellow fever to the "striped-legged mosquito." His views were published in the *Official Gazette* of Cumana, and were investigated by Dr. de Brassac on behalf of the French colonial office, who reported adversely on them. Beauper-

thuy supposed that the mosquitoes obtained the poison from putrefying organic matter; but he recognized that they were the distributors of it, and fixed the guilt mainly on the domestic habits of the striped-legged variety.

New York Medical Journal.

June 29.

10 *New Method of Estimating the Permeability of the Pylorus and an Attempt at Testing the Pancreatic Function Directly. M. Einhorn, New York.
11 Favus, with Reports of Two Indigenous Cases. E. J. Stout, Philadelphia.
12 *Treatment of Infantile Paralysis. C. R. Keppler, New York.
13 Bothriocephalus Latus. F. Huber, New York.
14 *Cholera Infantum. L. K. Hirshberg, Baltimore.
15 Common Conjunctival and Corneal Diseases. A. J. Herzog, New York.
16 *Cause of Premature Separation of the Placenta. L. Rosenberg, Brooklyn, N. Y.
17 *Is Idiopathic Epilepsy with Associated Paralysis Due to the Action of a Germ? B. R. Le Roy, Athens, Ohio.

10. **Permeability of Pylorus.**—Einhorn describes a small bucket (resembling the beads used in testing the condition of the stomach) tied to a long string of braided silk with a mark at 75 cm. It is enclosed in a gelatine capsule and swallowed about an hour after a small meal and remains in the digestive tract about three hours, the patient fasting meanwhile. The thread is tied to the ear or otherwise fastened so that it can not go beyond the 75 cm. mark. It is then drawn slowly up, usually meeting with slight resistance on passing the pylorus. The patient swallows once when the bucket has reached the entrance of the esophagus, and it is then easily withdrawn; or the bucket may be swallowed at bedtime and withdrawn in the morning. Usually it returns filled, and its contents are withdrawn with a pipette and placed in a small porcelain dish. They are usually yellowish (from bile), neutral or faintly acid, with no free hydrochloric acid. That the bucket really gets into the duodenum may be told not only by the contents, but by *x*-ray photographs.

12. **Infantile Paralysis.**—Keppler says that during the first six weeks all these patients should be left alone in the recumbent posture. The subsequent treatment he divides into: 1, Active treatment, (a) by the use of pendulum machines, (b) by the use of massage and electricity, (c) by the use of hydrotherapy; 2, brace treatment; 3, operative treatment, comprising tenotomy, tendon transplantation, nerve transplantation, and arthrodesis.

14. **Cholera Infantum.**—Hirshberg says that while this term is used to cover various conditions, the most virulent and dangerous form is caused by *Bacillus dysenteriæ*, which enters the body through the stomach. The scheme of treatment is to remove bacilli and their toxin by intestinal irigation and to combat exhaustion by stimulants, and otherwise treat symptoms. Half an ounce of old brandy can be taken by a child ten months old in 24 hours. Calomel and castor oil are the cathartics of choice, but stomach lavage and colon irrigation may be needed. Drugs, except opium, resorcin, and bismuth, have been overestimated. Lime water, sodium bicarbonate, and magnesia help the vomiting. Astringents usually do harm. A dilute acid may help in the later stages. In severe prostration, mustard baths, hot packs and saline infusions may be used. Hirshberg inveighs against popular superstitions that keep up the liability, the idea that it helps a child to pass from milk diet to other food, to accustom it to "taste" every dish taken by the mother, breaking down its digestion and constitutional resistance; and the superstition that children must have something to exercise their gums on. Such a desire is merely an acquired habit. Babies begin to acquire habits within ten days after birth. The remedy lies in maternal tact and judgment.

16. **Premature Separation of Placenta.**—Rosenberg says that in the cases that have come under his notice, he has found metritis due to gonorrheal infection to be a predisposing cause, the exciting cause being some slight trauma caused by the midwife or the physician. He reports a case in support of this theory.

17. **Epilepsy.**—Le Roy has settled on one germ, a spore-bearing bacillus, normally from 1 to 3 microns in length and from one-half to two-thirds of a micron in width, as a cause of the paralysis associated with epilepsy. The micro-organism is acid-fast, motile, intensely so—in certain media—is killed when grown on agar at 194 degrees F., but when grown in media, which have a small content of the silicates of calcium and magnesium, it can not be killed with prolonged boiling of the media; specimens lived that had undergone fractional boiling of the media for over two hundred hours. Growths from this specimen, grown as follows, give peculiar results: In a faintly alkaline gelatin bouillon at 98.6 degrees F. the organism resembles, when full grown, the *Bacillus typhosus;* transplanted to agar made less alkaline, and grown at 98.6 degrees F., it resembles the *B. tetani;* transferred to a faintly acid, lime, silicate, magnesia medium, it grows to full size. The medium is then boiled and set aside for a few weeks and the germ resembles the tubercle bacillus. Washed off and placed in faintly acid gelatin medium and grown for several weeks the germ will resemble the *B. diphtheriæ*. Throughout all these changes the germ will take the stain of the micro-organism, which it simulates and can be distinguished with difficulty. Under certain conditions of growth the germ becomes ultramicroscopic in form and after weeks of culture at 98.6 degrees F. it reappears. Clinically, the author has prepared an opsonin from it which has been tested in the Ohio State Insane Asylum with good results. He promises further communications on the subject.

Medical Record.

June 20.

18 *Milk-Free Fluid Diet and Rectal Irrigations in Typhoid. A. Seibert, New York.
19 *A Milk-Free Diet in Typhoid. C. J. Strong, New York.
20 *Milk-free Fluid Diet and Rectal Irrigations in Typhoid. R. C. Kemp, New York.
21 Clinical Charts of a Case of Quartan Malaria Observed in West Africa. F. C. Wellman, Benguella, West Africa.
22 The Relation of Tuberculous Cows to Tuberculosis in Children. W. L. Stowell, New York.
23 Treatment of Diseases Due to Respiratory Catarrh. W. M. Richards, New York.
24 Injurious Habits and Practices of Childhood: Their Detection and Correction. K. H. Goldstone, Jersey City, N. J.

18. **Milk-Free Diet in Typhoid.**—Seibert has tested the following plan of treatment in St. Francis' Hospital: The stomach is washed out and two doses of calomel, 2 grains each, were given within two hours. Rectal irrigations with warm water were given, except when contraindicated by bowel hemorrhage, appendicitis, or peritonitis. Cold water only was given during first day, then strained rice, oatmeal, or barley soup, with extract of meat and egg yolk spiced. Other broths, and in case of great hunger, zwieback, were next given. Before each meal from fifteen to twenty-five drops of hydrochloric acid were given in half an ounce of water. Under this treatment, general symptoms improve, temperature falls, complications disappear or fail of development, the attack is shortened and the mortality reduced. In all, 338 cases have given a mortality of 3.1 per cent.

19. **Idem.**—Strong has tested in 17 cases, the method of Seibert, mentioned in the preceding article, and endorses Seibert's conclusions.

20. **Idem.**—Kemp discusses the milk-free treatment of typhoid of Seibert, which he considers based on sound scientific principles, and which he predicts will, in time to come, be generally recognized as the proper method.

Archives of Internal Medicine, Chicago.

May.

25 *Relation of Iodin to Structure of the Thyroid Gland. D. Marine and W. W. Williams, Cleveland, Ohio.
26 *Lymphangitis and perilymphangitis of the Liver in Their Relations to Inflammations of the Organ. H. Oertel, New York.
27 *Recent Advances in Our Knowledge of the Underlying Chemical Principles of Diabetic Acidosis. E. H. Goodman, Philadelphia.
28 Infection with Schistosoma Japonicum in a Filipino. E. R. Whitmore, Manila, P. I.
29 *Treatment of Gonococcus Arthritis by Injections of Dead Gonococci, and the Clinical Reaction which Follows the Injections. E. E. Irons, Chicago.

25. **Iodin and Thyroid.**—Marine and Williams summarize the results of their investigations as follows: 1

Iodin is necessary for normal thyroid activity. 2. Iodin is the main index to the physiologic value of the thyroid secretion (thyreoglobulin) to the body. 3. The percentage of iodin varies with the amount of colloid in the several degrees of hyperplasia; the colloid varies inversely with the degree of thyroid hyperplasia; the iodin varies inversely with the degree of thyroid hyperplasia. 4. The colloid gland (goiter) is the quiescent or normal state of a gland which has previously been a glandular hyperplasia and obeys all the biologic laws of a normal gland. 5. In the classification of thyroid changes (excluding infections and neoplasms) four major groups must be recognized, viz.: (a) Normal glands, (b) colloid glands, (c) hyperplastic glands (all grades), (d) complications engrafted on any of the three preceding groups. 6. The ability of the thyroid glands to store iodin depends on the degree of glandular hyperplasia rather than on the form or mode of administration of iodin. 7. The optimum therapeutic effects of iodin on the thyroid gland are only obtained with doses vastly smaller than those usually employed. 8. The percentage of iodin which a thyroid may contain is variable, but the minimal percentage necessary for the maintenance of normal gland structure is constant. (9) Commercially desiccated thyroid has a constant iodin content and, therefore, has a variable physiologic activity and therapeutic value. 10. The problem of human goiter, both anatomically and chemically, should be investigated along lines similar to those adopted for the dog.

26. **Lymphangitis of Liver.**—Oertel confines himself to a consideration of the condition of the lymphatics in what are now termed "acute," "subacute," and "chronic" inflammations of the liver. He says that inflammatory conditions of the liver are associated with an exudative lymphangitis and perilymphangitis. If, in the subsidence of the inflammatory irritation, the lymphatics are cleared, and nothing stands in the way of resorption of inflammatory irritants and products, a change to the normal may take place. If, on the other hand, the lymphatics are not cleared, they form an essential factor in the establishment of a progressing inflammation in the form of an exudative and productive or pure cirrhosis of the liver. He suggests the following very broad classification for diffuse inflammations of the liver:

1. Degenerative exudative hepatitis, now called acute hepatitis, in cases which are characterized in varying degrees and in varying combinations by cellular exudation taking origin from the portal spaces, by lymphangitis, perilymphangitis and cholangitis, by diffuse parenchymatous and fatty degenerations of the liver cells, and by cytolysis and bile imbibition.

2. Degenerative productive hepatitis in cases which are now grouped as subacute hepatitis, and divide them into two forms: the first with a more rapid loss of substance, grossly appears more or less granular, the second with a much more gradual loss of substance has consquently a more uniform, even distribution of connective tissue and is, therefore, smooth. Both of these may be associated with either enlargement or diminution in size of the liver. They are characterized, microscopically, by a productive cellular inflammation proceeding from the portal spaces, which is periinsular and diffuse: a productive lymphangitis and a productive pericholangitis. It is further characterized in varying degree, and more or less accentuated by, more slowly progressing, irregular, parenchymatous and fatty degenerations and fatty infiltration, cytolysis, bile imbibition, and the formation of new, mature and embryonic liver cells (bile ducts).

3. Productive hepatitis, or sclerosis of the liver (which is to be preferred to cirrhosis of the liver), and this is characterized essentially by the formation of mature, peri-insular, or diffuse connective tissue formation; depending on the loss of liver substance and the distribution of connective tissue, it is either granular or smooth and goes along with enlargement or diminution in size of the organ. It further presents very slowly progressing, irregular, parenchymatous and fatty degenerations, and fatty infiltration, cystolysis, little or moderate bile imbibition, and the formation of mature and embryonic liver cells (bile ducts).

27. **Diabetic Acidosis.**—Goodman's review of recent advances in our knowledge of the underlying chemical principles of diabetic acidosis leads him to the conclusion that of the three acetone bodies, beta-oxybutyric acid, diacetic acid, and acetone, the first-named seems at present to be the cause of acidosis, not on account, however, of any specific toxic properties, but simply on acount of its excess robbing the body of its alkaline supply. Any other acid present in similar excess might have the same result. Fat, especially that containing fatty acids, is the principal source of the acetone bodies, though they may be derived from protein. The place of formation is probably the liver.

29. **Gonococcus Arthritis.**—Irons studies this subject and describes the results of injections of dead gonococci. He concludes that systemic infections by the gonococcus tend to spontaneous recovery—some cases are acute, recovery being rapid, some more chronic, lasting months or even years. His results so far seem to indicate that in certain cases of gonococcus arthritis recovery can be hastened by the injection of dead gonococci, which should be used, however, rather in conjunction with other general measures, e. g., rest, aspiration of distended joints, massage of prostate, etc. The reliability of the clinical gonococcus reaction as a diagnostic procedure can be determined only after many tests.

Annals of Surgery, Philadelphia.

May.

30 Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull. H. Cushing, Baltimore.
31 Osteoplastic Resection of the Skull. A. C. Wood, Philadelphia.
32 *Atlo-Occipital Dislocation. N. J. Blackwood, U. S. Navy.
33 *Fracture Through Anatomic Neck of the Humerus with Dislocation of the Head. J. B. Buchanan, Pittsburg.
34 *Treatment of Dislocation of the Shoulder Joint Complicated by Fracture of the Upper Extremity of the Humerus. J. M. Mason, Birmingham, Ala.
35 *Treatment of Epiphyseal Displacements and Fractures of the Upper Extremity of the Humerus Designed to Assure Definite Adjustment and Fixation of the Fragments. R. Whitman, New York.
36 Traumatic Subluxation of the Uterus. F. P. Vale, Washington, D. C.
37 *Occluding Pulmonary Embolism. W. Bartlett and R. L. Thompson, St. Louis.
38 *Operative Treatment of Intractable Vomiting, not Due to Pyloric Obstruction; Neuroses of the Stomach. W. Meyer, New York.
39 *Value of Enterostomy and Conservative Operative Methods in the Surgical Treatment of Acute Intestinal Obstruction. C. A. Elsberg, New York.
40 Non-absorbable Suture and Ligature. O. H. Allis, Philadelphia.

32. See Abstract No. 49.

33. **Fracture of Neck of Humerus and Dislocation of Head.**—Buchanan reports this case and arrives at the following conclusions as to the mechanism involved: "It is probable that a fall on the outstretched arm or hand may cause, (1) a dislocation; that, if the body pitches forward with the hand or arm still on the ground, the force is applied in a new direction—along the line of the shaft, (2) an indentation of the neck occurs, or (3) a partial or complete separation of the head; if the body is projected further forward the force is applied in still another direction—compressing the elbow to the side, and (4) the partial cleavage of the neck is completed by a strong leverage of the arm. The treatment is: (1) Restoration of the dislocated head to the glenoid cavity by external manipulation; (2) restoration by open incision; (3) excision of the dislocated head, which seems to be the operation of choice, having been performed in 14 cases, with 2 results excellent, 6 good, 1 moderately good, and 2 deaths. That was the course adopted with success in the present case.

34. Abstracted in THE JOURNAL, Jan. 25, 1908, p. 310. The present article contains in addition some good illustrations and a tabular analysis of reported cases.

35. **Epiphyseal Displacement.**—Whitman describes the following methods based on the principle of reducing the displacement by leverage of the extremity and opposing the fragments by adjusting the attitude of the limb to conform to the separated head, or essentially in full abduction, the alignment being aided by manipulation of the inner fragment and by tension on the capsule and the surrounding muscles. The patient having been anesthetized, the adherent fragments are separated by forcible manipulation. The head is then grasped, as well as may be, by the fingers, and under traction the arm is abducted gradually to the extreme limit, the acromion serving as a fulcrum to direct the extremity of the diaphysis downward toward the epiphysis. When the fragments are in apposition the abducted arm may be drawn somewhat forward, if necessary, to assure proper adjustment. A shoulder spica is then applied, the extended arm being raised over the head by rotation of the scapula, so that one may better utilize muscular tension and the force of gravity to

fix the fragments. Two methods of bandaging are illustrated. Union is prompt.

37. Abstracted in THE JOURNAL, Jan. 18, 1908, p. 233.

38. **Intractable Vomiting.**—Meyer's article is written, first, to recall to the mind of the general practitioner the fact that cases like those described clearly belong to the borderland, and that, after he has exhausted all means at his disposal, a mere abdominal incision which, as a matter of course, will reveal some kinking or adhesions, is apt permanently to cure the patient; second, to impress on the surgeon that it is unwise to refuse operation; third, that gastroenterostomy in these cases is clearly contraindicated, in fact may result fatally. It is indicated only in cases of pyloric stenosis and for the purpose of putting at rest recurrent gastric ulcers that may have developed in the distal part of the stomach.

39. **Enterostomy in Intestinal Obstruction.**—Elsberg draws the following conclusions:

1. Operative interference for acute intestinal obstruction should very often be divided into two stages.
2. Enterostomy and drainage should be the operation of choice, not only in the desperate cases, but also in many patients whose condition is still a fair one.
3. Prolonged search for the obstruction and its relief, in all patients excepting those in very good condition, should be delayed until the acute symptoms have been relieved by the opening and drainage of the bowel.
4. The danger of leaving behind gangrenous intestines is a small one, it is smaller than the danger from prolonged manipulations.
5. When gangrenous intestine is present it is preferable to bring it outside of the abdomen and deal with it later; the obstructive symptoms being meanwhile relieved by enterostomy.
6. Enterostomy, thus done, is not an "extreme, irrational and blindly advised" operation, but one that embodies a distinct therapeutic principle—alleviation of acute symptoms as the first step in the relief of a pathologic condition.
7. The operation of enterostomy may permanently relieve acute intestinal obstruction.
8. Fecal fistula will remain in only a small proportion of the cases in which enterostomy has been done. If the opening and drainage is made according to the Kader principle.

American Journal of Obstetrics, New York.

May.

41 *The Crime of Gynecology. C. W. Barrett, Chicago.
42 *Preservation of the Ovaries Entire or in Part in Supravaginal or Panhysterectomy. R. Peterson, Ann Arbor, Mich.
43 *Rupture of the Uterus Through the Cesarean Cicatrix. G. L. Brodhead, New York.
44 Myxosarcoma of the Round Ligament. W. Krusen, Philadelphia.
45 Fibroma of the Anterior Abdominal Wall. Id.
46 *Necessity for the Artificial Feeding of Infants. L. Johnson, Washington, D. C.
47 *Menorrhagia and Metrorrhagia. T. Kubo, Tokio, Japan.

41. This article was published in the *Chicago Medical Recorder*, April, and was abstracted in THE JOURNAL, June 6, 1908, p. 1942.

42. **Preservation of Ovaries in Hysterectomy.**—Peterson has tabulated the results in 173 cases of hysterectomy in which both ovaries were also removed in 146, and in the remaining 27 cases, part of one ovary, one ovary, or both ovaries were retained. He examines the analysis under the following heads in relation to postoperative troubles: 1, Frequency; 2, severity; 3, age; 4, kind of operation; 5, disease; 6, duration of symptoms; 7, amount of ovarian tissue retained. His conclusions are as follows: At least 10 per cent. of all women regularly menstruating at the time of operation will be free from the troublesome symptoms of the artificial menopause after hysterectomy with removal of the ovaries. The percentage of women with no symptoms after similar operations will be slightly more than doubled if some ovarian tissue be retained. The severity of the symptoms of the artificial menopause is much less when the ovaries are retained after hysterectomy. It is not necessarily true that the younger the woman the more she will suffer from the symptoms of the menopause after hysterectomy with removal of the ovaries. The greatest percentage of suffering occurs in women operated on between the ages of 40 and 44; therefore, the rule that ovaries should be removed from patients over 40 when hysterectomy is performed should not be followed. The frequency and severity of the artificial menopause is not influenced in any way by the kind of hysterectomy performed, whether the ovaries be removed or retained. The severity of the symptoms of the menopause is practically the same after hysterectomies with removal of the ovaries for fibroid disease of the uterus and inflammatory disease of the appendages. Retention of ovarian tissue after hysterectomy cuts short the period from which patients usually suffer from the symptoms of the artificial menopause. The greater the amount of ovarian tissue conserved, the more will the symptoms of the artificial menopause be mitigated.

43. **Rupture of Uterus Through Cesarean Cicatrix.**—Brodhead tabulates and abstracts the reports of twenty cases, including one of his own, in which rupture of the uterus has occured through the Cesarean scar. He summarizes the results of his investigations as follows: Rupture of the uterus through the Cesarean cicatrix is of rare occurrence. With prompt operative methods the mortality is comparatively low. When pregnancy follows Cesarean section, the patient may be safely delivered again by a section in a large percentage of cases. In repeating a section, labor should be anticipated by a week or fourteen days. If section is to be repeated and labor sets in prior to the time elected for operation, Cesarean section should be performed as soon as possible after the onset of labor pains. Sterilization may be done at the time of section, if the patient so desires. Suture of the laceration has proved successful, but in some instances hysterectomy will be the method of choice.

46. **Artificial Feeding of Infants.**—Johnson considers that the increasing prevalence of artificial feeding is because every year fewer women either can or will nurse their infants. The principal factors in inability to do so are (1) heredity—alcoholism in the grandparents or inability of the maternal grandmother to nurse the present mother in infancy; (2) the artificial life of the modern women. To these Johnson adds as at least a contributory, and one that physicians can help to control, the strenuous school life of girls to-day. He reminds us that in rearing a girl we are contending with a deeper and more mysterious problem than in raising a boy, and suggests the inadvisability of continuing a parallel curriculum for boys and girls from early school days through college.

47. **Menorrhagia and Metrorrhagia.**—Kubo's elaborate article hardly lends itself to abstracting. He discusses the present idea concerning the causes of "uterine hemorrhage," enumerates the causes—general or remote, and local or direct—as described by various authors, and analyzes 97 cases from his own material, the striking feature of which is a finding of normal endometrium in 56 on histologic examination. He then discusses the material furnished by hysterectomy, partial hysterectomy, or panhysterectomy, with the result that examination of 9 cases of extirpation or partial resection of the uterus did not disclose any definite point common to all to which the uterine hemorrhage could be attributed in each case.

United States Naval Medical Bulletin, Washington, D. C.

April.

48 *Treatment of Tuberculosis by the Administration of Mercury. B. L. Wright, U. S. Navy.
49 *Atlo-Occipital Dislocation. N. J. Blackwood, U. S. Navy.

48. **Mercurial Treatment of Tuberculosis.**—Wright, observing that the pulmonary tuberculosis of syphilitics improved while they were undergoing antisyphilitic treatment, placed ten tuberculous patients on mixed treatment:

℞. Hydrargyri chloridi corrosivi.....	0	00325	gr. 1/20
Potassii iodidi	0	324	gr. v

Sig.: t. i. d. in water.

The men all improved to the point where the medicine deranged the gastrointestinal tract, when it had to be distinued. Later, Wright and Bucher used hydrargyrum succinidum in deep muscular injections. Two cases are fully reported. Thirty-three cases are reserved for future publication, but of the entire number 30 patients are showing improvement by reduced pulse rate and temperature, increased appetite, lessened cough, and a gain in weight, while the other five are holding their own. Most are well advanced cases. Wright concludes that they have shown: (1) The almost immediate improvement in the general condition of the patient, following the administration of mercury; the slowing of the pulse, the reduction of temperature and the gain in weight. (2) That it will cure extremely advanced tuberculous ulceration of the larynx and pharynx in a re-

markably short period of time. (3) That it produced marked improvement in advanced pulmonary lesions, and that it has also a decided beneficial action on tuberculous glands. The patients were most carefully questioned and examined and no history or trace of syphilitic infection could be discovered. Wright, therefore, believes them to be cases of unmixed tuberculous disease.

49. **Fracture Dislocation of Atlas and Axis.**—Blackwood reports this case as unique in that the patient was kept alive for 34½ hours by artificial respiration. He has examined the literature of the subject exhaustively, but could find but one case similar to this as to location and character of fracture. In that case life was sustained for 3½ hours only by artificial respiration.

Archives of Pediatrics, New York.

April.

50 Relation of the Bacilli Belonging to the So-called Dysentery Group to the Diarrheal Affections of Infants. J. H. M. Knox, Jr., Baltimore.
51 Need of Greater Accuracy in Prescribing Starch in Infant Feeding. M. Ladd, Boston.
52 Specimens and Photographs of Resected Ribs. F. Huber, New York.
53 Articular Rheumatism in an Infant. J. P. C. Griffith, Philadelphia.
54 Case of Congenital Malformation of the Esophagus. J. Phillips, Cleveland.
55 Sarcoma of the Kidney in Infancy. W. F. Cheney, San Francisco.
56 *Pathology of Tuberculosis in Children. J. McCrae, Montreal.
57 Laboratory Aids to the Diagnosis of Tuberculosis in Infants and Children. T. H. Coffin, New York.
58 *Channels of Communication in Tuberculosis. S. M. Hamill, Philadelphia.

56. **Tuberculosis in Children.**—McCrae's experience in regard to generalized tuberculosis in children has been that the most frequent site of involvement is the lungs, which were affected in 95 per cent. In more than half the cases the following organs were affected in the stated order of frequency: lymph nodes, spleen, liver, intestines, meninges and kidneys. Tuberculoma in the brain in the author's series, was about one-fourth as frequent as meningeal involvement.

58. **Tuberculosis.**—Hamill discusses the various forms of infection with tuberculosis: Infection through the skin, respiratory infection and alimentary infection. As a result of his study he draws the following conclusions:

1. It is impossible to gain any knowledge as to the port of entry from either the location or the degree of development of the tuberculous lesions.
2. Fetal infection is proved but not common.
3. Infection through the mouth, tonsils and pharynx is of frequent occurrence and may be produced by inhalation or ingestion.
4. Primary inhalation infection through the lungs does occur.
5. Infection through the intestinal tract is definitely proved.
6. The bronchial glands and lungs may be infected through the intestinal tract as well as through the lower respiratory tract.
7. The relative significance of the various modes of infection is difficult to determine on the basis of our present knowledge, since it has been clearly shown that it matters not from what point the tubercle bacillus is introduced, it can eventually reach the bronchial glands and lungs without leaving any evidence of its mode of entrance. It is probable, however, on account of the greater exposure of these portions of the body, that infection through the upper respiratory and alimentary tracts is the most common, and next to this, for similar reason, through the lower respiratory and intestinal tracts. As to which of the latter two constitutes the more frequent channel it would seem that the nature of the exposure should prove a determining factor. If infection occurs when the bacillus is introduced with the food or carried to the lips or mouth in kissing, or by infected hands, nippies, toys, drinking cups, or the various feeding utensils, it must also certainly be by the alimentary tract. If, on the other hand, the bacilli-laden dust or droplets are inspired they may be conveyed directly to the lungs and there produce pulmonary and bronchial gland infections.

Illinois Medical Journal, Springfield.

April.

59 Modern Treatment of Pulmonary Tuberculosis; the Sanatorium: Its Function and Value. J. W. Pettit, Ottawa, Ill.
60 *New Method of Diagnosis and Treatment of Fistulous Tracts, Tuberculous Sinuses and Abscess Cavities. E. G. Back, Chicago.
61 Important Points in the Treatment of Syphilis. J. Zeisler, Chicago.
62 Memoir of Columbus Barlow. M. Barlow, Robinson, Ill.
63 Acute Otitis Media. "Earache:" a Plea for Its Earlier Recognition. E. R. Ogden, Chicago.
64 Acute Bronchitis and Some of Its Peculiar Phases. S. W. Schneck, Mt. Carmel, Ill.
65 Duty of the City Toward Insanitary Municipal Plague Spots. A. H. Revell, Chicago.
66 *Therapeutics of Influenza. J. C. Gill, Chicago.

60. This article was published in THE JOURNAL, March 14, 1908, p. 868.

66. **Influenza.**—Gill combats statements made by some medical men that no treatment is necessary or is of any special value. Besides the usual measures of ventilation, avoidance of overcrowding, proper care of colds and bronchial inflammations, nursing, etc., he begins treatment with calomel followed by a saline, then by a warm bath for diaphoresis and small quantities of cold water to relieve thirst and produce diuresis. For pain he gives antipyretics. Temperature above 105 F. is best combated by hydrotherapy; a tub bath, if possible, the wet pack if a trained nurse is available, and cold sponging under other circumstances. For sleeplessness a warm sponge bath at night and warm applications to the spine are indicated, with hypnotics if necessary. For cough and bronchial irritation small doses of codein may be given; in the marked prostration that follows, supporting measures are indicated, such as strychnin, caffein, alcohol. As to diet, food is in the beginning always repugnant, and care, therefore, should be exercised in its administration lest from lack of assimilation distressing symptoms be aroused. Cold or acidulated water, fermented milk foods, properly prepared broths, etc. Convalescence is usually prolonged and discouraging and demands an abundance of easily digested foods and tonics, such as iron, arsenic, nux vomica, and quinin with mineral acid; also carefully regulated exercise to avoid fatigue. Massage and electricity may be useful.

Lancet-Clinic, Cincinnati.

June 6.

67 Physiotherapeutic Methods in Chronic Diseases. C. Pope.
68 *Neuroses of the Bladder. R. C. M. Lewis.
69 Splint for Holding Club Foot in Position After Operation. E. G. Abbott, Portland, Maine.

June 13.

70 *Tobacco and the Eyes. F. Dowling, Cincinnati.
71 *Tobacco and the Heart. E. W. Mitchell, Cincinnati.
72 Tobacco and the Nerves. P. Zenner, Cincinnati.
73 Trauma in Relation to Abnormal Mentality. I. O. Allen, Centreville, Ind.
74 Excision of the Tongue for Carcinoma. C. E. Ruth, Keokuk, Iowa.

June 20.

75 Proteid Metabolism. O. Berghausen, Cincinnati.
76 Radical and Palliative Operations for Cerebral Hemorrhage. A. E. Sterne, Indianapolis, Ind.
77 Instantaneous Rigor Mortis. E. S. McKee, Cincinnati.
78 When Should Physiology be Taught at College? G. W. Spencer, Cleveland, Ohio.

68. Abstracted in THE JOURNAL, Oct. 26, 1907, p. 1468.

70. **Tobacco Amblyopia.**—Dowling, as the result of investigations among tobacco users employed in tobacco factories considers tobacco amblyopia the most common of all toxic amblyopias. He thinks the negroes enjoy immunity in this regard. Those chiefly affected are males between 35 and 68. There is gradual but progressive loss of visual acuteness. Luminous objects dazzle the sight. These patients see better in the evening than in the bright daylight. They complain of a glimmering mist. Persistent contraction of both pupils is a common symptom. Ophthalmoscopically, first redness of the optic papilla, later anemia, and finally atrophy, is found. He discusses the properties of nicotine and its action on the red blood corpuscles and the oxyhemoglobin. The prognosis is good if the patient comes early under treatment—chief of which is absolute prohibition of tobacco in any form. From six to twelve weeks is necessary to effect a cure. Strychnin, the physiologic antagonist of nicotin, is useful.

71. **Tobacco and the Heart.**—Mitchell's conclusions are as follows:

1. Many men can smoke moderately for a lifetime without manifest injury.
2. Excessive smoking is always injurious sooner or later.
3. What constitutes "excess" differs with the individual; some men bear tobacco so badly that they should avoid it altogether. Two cigars a day may be excess for one man while another observes no special effects from several.
4. In some individuals, ill effects from smoking are not observed until many years of indulgence, when gradually, or sometimes suddenly, they realize that the customary smoke produces some irregularity, palpitation, angina or other disturbance.
5. In the immature, the use of tobacco in any form is highly injurious, interfering with the normal development of the mental powers, producing various nervous disturbances especially nervous disturbance of the heart as manifested in palpitation, arrhythmia and weakness.
6. Cigarette smoking, as seen in this country, is more injurious than either pipe or cigar and more difficult for the victim to abandon. No doubt the principal reason for this is found in the

common habit of inhaling the smoke. The nasal cavities present an enormous surface of mucous membrane, so that in the practice of inhalation more nicotine is absorbed. In addition there is the fact that from the short, loosely packed cigarette practically all the nicotine is taken hot into the respiratory passages. In the tightly rolled cigar the smoke has more time to cool down and much of its alkaloid is deposited in the butt of the cigar. In the pipe the smoke is cooled and the nicotine deposited in the stem. Another reason why we more frequently see pernicious effects from cigarette smoking, is the fact that it is the common form of smoking in the early years of life.

7. The characteristic symptoms of tobacco heart are palpitation, irregularity, irritability, anginal pains, absence of organic murmurs, prompt recovery on abandonment of the habit. Pseudoangina pectoris is not infrequent.

Interstate Medical Journal, St. Louis.

May.

79 Roentgen Ray in the Diagnosis of Renal and Ureteral Calculi. R. D. Carman, St. Louis, Mo.
80 A Roentgenologic Discussion of Bone Lesions. E. H. Skinner, Kansas City, Mo.
81 Roentgen Ray Treatment of Leukemia. A. E. Taussig, St. Louis.
82 Use of the Roentgen Ray in Gastric Diagnosis. H. W. Soper, St. Louis.
83 Moulages or Wax Models. J. J. Houwink, St. Louis.

Bulletin of Johns Hopkins Hospital, Baltimore.

April.

84 Ophthalmovascular Choke. G. M. Gould, Philadelphia.
85 Excretion of Hexamethylenamin (Urotropin) in Bile and Pancreatic Juice. S. J. Crowe, Baltimore.
86 Satisfactory Pressure Bandage for the Leg. J. S. Davis, Baltimore.
87 Effect of Injected Leucocytes on the Development of a Tuberculous Lesion. E. L. Opie, New York.

Journal of the Kansas Medical Society, Kansas City.

May.

88 *Pathology, Symptoms and Treatment of Chronic Myocarditis. F. A. Carmichael, Goodland, Kan.
89 Surgical Treatment of Detached Retina. G. W. Maser, Parsons.
90 Rational Treatment of Pneumonia. J. D. Walthall, Paola.
91 Recent Prevalence of Smallpox in Atchison County. E. B. Knerr, Atchison.

88. **Chronic Myocarditis.**—Carmichael concludes that while many diseases, age, sex and habit, are possible, they are not essentially etiologic factors of the fibroid type. The mechanism of the changes in heart muscle is not clearly defined. Arteriosclerosis of the peripheral trunks in heart lesions may not be accepted as presumptive evidence of myocardial affection, save in cases in which endocardial complication is absolutely excluded. Even there its value is only presumptive. The mechanism of sudden death (exclusive of rupture) must be due to sudden and absolute inhibition of contractile impulse resulting in asystole. The analogy with the Stokes-Adams syndrome suggests that the same pathologic process governs both phenomena and is supported by the pathologic findings. The fibrotic changes may be considered a result of a cycle of three events: (a) Sclerosis of the coronary arteries resulting in deficient blood supply, i. e., anemia of the heart; (b) dilatation the direct result of anemia from weakening of the heart muscle; (c) fibrotic change due in part to the primary coronary arteritis and in part to the dilatation which lengthens the course and diminishes the caliber of the cardiac vessels. Fibrotic changes once established are permanent, with a tendency toward progression, uninfluenced by any known therapy, but in the earlier stages the tendency to progression may be overcome by hygiene. The symptoms are so vague that diagnosis can be merely presumptive. The use of cardiants, especially digitalis, to stimulate contraction, without lessening resistance, is irrational and tends to favor progress of the lesion. Opium, as advocated by Musser, is a most valuable remedy when disturbed compensation gives rise to nervousness and apprehension. It acts as a cardiac tonic, reduces peripheral resistance, quiets nervous tendencies, steadies respiration, allays dyspnea, and gives rest, mental and physical. Cardiac depressants, e. g., aconite and veratrum, may be used with caution in small doses if carefully watched. In some cases they give distinct benefit.

Chicago Medical Recorder.

May.

92 *Death of the Mature Fetus in Labor. H. M. Stow, Chicago.
93 Medicine of the Future. W. Parsons, Chicago.
94 Supplemental Report of a Case of Xanthoma. J. E. Rhodes, Chicago.
95 *Treatment of Gonorrheal Epididymitis. L. W. Bremerman, Chicago.
96 History of Vulvovaginitis in Children. J. D. Merrill.

92. Abstracted in THE JOURNAL, May 23, 1908, p. 1756.

95. **Gonorrheal Epididymitis.**—Bremerman applies a compound iodin ointment on gauze to the scrotum and elevates the scrotum with a bandage. The ointment is left till burning occurs when it is removed and the part cleansed with olive oil and lead ointment applied abundantly. If the prostate is also affected, he passes a metal instrument similar in size and shape to a perfecto cigar with an inlet and outlet tube at one end. This is connected with a fountain syringe so that a stream of hot or cold water can be made to pass. Internally he administers methylene blue.

American Journal of Orthopedic Surgery, Philadelphia.

April.

97 *Operation for Paralytic Calcaneo-Cavus. R. Jones, Liverpool, England.
98 Simple Method of Dealing with Volkmann's Ischemic Paralysis. Id.
99 *Fracture of the Head and Neck of the Radius. W. G. Erving, Washington, D. C.
100 Treatment of Some Types of Rheumatoid Disease by Physical Therapeutics. F. E. Peckham, Providence, R. I.
101 Place of Operative Surgery in the Treatment of Chronic Arthritis. C. F. Painter, Boston.
102 Hyperemia as a Therapeutic Agent. W. G. Turner, Montreal.
103 Simple Methods in Recording Scoliosis. E. H. Bradford, Boston.
104 Treatment of Scoliosis. Id.
105 Regeneration of Bone from Periosteum. A. Thorndike, Boston.
106 Greater Tendency to Spontaneous Correction in Bow-Leg than in Knock-Knee, and the Anatomic Reasons. J. T. Rugh, Philadelphia.
107 Cause of Flexion in Hip Disease. Id.
108 Chronic Dislocation of the Lower Jaw, with a Simple Device for Maintaining Reduction. C. Riely, Baltimore.

97. **Volkmann's Ischemic Paralysis.**—Jones has discontinued all operative measures and now uses the following simple procedure: He cuts out of zinc or sheet iron five splints, which will fit the patient's fingers when extended. An assistant flexes the wrist fully and holds it forcibly and steadily in that position; then the fingers are relaxed and each must be separately splinted. The wrist is then released and the patient is directed systematically to attempt to extend the now very contracted metacarpophalangeal range, which can be done after a few days sufficiently to admit of the application of a splint from the finger tops to the wrist joint, the wrist being fully flexed to admit of this. The fingers are therefore bound in five splints and over them the hand is fixed in a splint which reaches to the wrist. For several days the hand is exercised in the direction of extension and a splint is applied, over the other splints, extending from finger tips to elbow, and is at intervals altered so that by degrees the wrist is fully extended. For some weeks this position is maintained until all contractile elasticity is lost. The splints are then removed and the hand is massaged. By this method every structure is stretched in the order of its tension. The results are satisfactory.

99. **Fracture of Radius.**—Erving summarizes his article as follows: Fracture of the radial head and neck, occurring alone, although formerly considered a rare curiosity, is not uncommon, is being observed with increasing frequency, and should always be considered in injuries of the elbow joint. The chief cause of the fracture is a fall on the outstretched hand, with the elbow extended, direct lateral blows occurring much less frequently. In uncomplicated cases without displacement diagnosis is often very difficult, as severe pain on pressure over the radial head, increased on attempted supination, is the only constant sign and is not peculiar to this condition, but occurs also in severe sprains of the lateral ligament. The differential diagnosis from partial dislocation of the radius by elongation in children, fractures of the capitellum humeri and external condyle, and sprain of the lateral ligament is especially difficult. The assistance of radiograms is of great value in cases without displacement of fragments, and in complicated lesions in which the condition is masked by much swelling, often furnishes the only means of diagnosis. The treatment in fractures without displacement is mobilization, massage, and passive movements; in the more severe

types, fixation for two weeks at a right angle, followed by massage and passive movements at once; in fractures with marked or irreducible displacements and in old cases with loss of function, excision of the radial head, followed by active treatment. In long-standing cases the prognosis of excision is influenced largely by the secondary changes in the joint consequent on disuse. The fracture should always be considered of a serious nature and a grave prognosis as to future perfect function should be given in all cases with displacement, especially when treated by conservative measures alone.

St. Paul Medical Journal.

May.

109 Eleven Cases of Trichinosis; Clinical History, Prognosis and Treatment. F. C. Schuldt and L. C. Bacon, St. Paul.
110 *Pathology and Diagnosis of Trichinosis, with Special Reference to Eosinophilia. S. M. White, Minneapolis.
111 Treatment of Acute Diffuse Peritonitis Following Appendicitis. O. W. Holcomb, St. Paul.
112 The Cystoscope and Its Efficiency in Diagnosis. H. P. Ritchie, St. Paul.

110. **Trichinosis.**—White describes the invasion by the parasites and the changes produced by them in man—gastroenteritis and eosinophilia. He discusses mixed infection and describes the changes in the muscle fibers and in the interstitial tissues. In diagnosis the following are of direct moment: Gastrointestinal symptoms, beginning from a few hours to two to four days after ingestion of the infected meat, early and persistent fever, myositis, edema and cutaneous phenomena, and eosinophilia, which is very characteristic. He describes the differential diagnosis between trichinosis and typhoid, influenza, subacute disseminated polymyositis, acute rheumatism and meningitis. The results of an autopsy in a fatal case are given.

Buffalo Medical Journal.

May.

113 Case of Epilepsy Caused by Eyestrain. G. M. Gould, Philadelphia.
114 *Relation of Weight of Placenta to Weight of Newborn Child. W. P. Manton, Detroit.

114. **The Placenta and the Child.**—Manton publishes some investigations into the relation existing between the weight of the placenta and that of the new-born child, which lead him to the conclusion that, as a rule, the development of the placenta goes forward with that of the child, and that its size (weight) may be taken ordinarily as an index to the weight development of the latter. While there may be variations in individual cases, these will not be sufficiently numerous greatly to influence the normal weight ratio between child and placenta, viz., as 6 + : 1.

Northwest Medicine, Seattle.

May.

115 Cancer of the Gastrointestinal Tract. R. C. Coffey, Portland, Ore.
116 *What Should be the Attitude of the Physician Toward the Tuberculous Patient? F. M. Pottenger, Monrovia, Cal.
117 Why the Pierce County Medical Society Should Abolish the Fee Bill. J. J. McKone, Tacoma, Wash.

116. Abstracted in THE JOURNAL, Dec. 7, 1907, p. 1947.

Providence Medical Journal.

May.

118 Malpositions of the Ulna in Colles' Fracture. F. C. Clark, Providence.
119 Treatment of Fractures of the Upper Extremity. S. N. Smith, Providence.
120 Coloproctitis. V. L. Fitzgerald, Providence.
121 Specific Therapy in Tuberculosis. J. Perkins, Providence.
122 Diagnosis and Treatment of Tuberculosis. M. J. O'Neill, Providence.

Indiana Medical Journal, Indianapolis.

May.

123 Rupture of the Urethra. J. W. Sluss, Indianapolis.
124 Common Errors in the Differentiation of Rheumatism. J. A. McDonald, Indianapolis.
125 Spirochæta Pallida. B. Erdman, Indianapolis.
126 In Memoriam—Dr. Joseph Goodwin Rogers. S. E. Smith, Richmond.

Montreal Medical Journal.

April.

127 Origin of the Blood Cells. O. Klotz, Montreal.
128 Excessive Length of the Sigmoid and Its Surgical Significance. J. Bell, Montreal.
129 Melanosarcoma of the Common Bile Duct Causing Complete Obstruction. C. W. Duval, Montreal.
130 Ocular Tuberculin Reaction. R. P. Campbell, H. McKee and P. G. White, Montreal.

Laryngoscope, St. Louis.

April.

131 Laryngostomy. J. Baratoux, Paris, France.
132 Fibroma of the Trachea. W. E. Sauer, St. Louis.
133 *Do We Hear Ourselves as Others Hear Us? G. Hudson-Makuen, Philadelphia.
134 Intranasal Method for Opening the Frontal Sinus Establishing the Largest Possible Drainage. R. H. Good, Chicago.
135 Plea for Conservatism in Treatment of Chronic Empyema of the Maxillary Sinus. T. W. Moore, Huntington, W. Va.
136 Dilated Veinlets on the External Nose and Septum; Their Permanent Closure with the Positive Galvanic Needle. O. T. Freer, Chicago.
137 Submucous Turbinectomy. H. V. Würdemann, Milwaukee.
138 Tongue Cases. R. H. Johnston, Baltimore.
139 Accessory Thyroid at Base of Tongue. C. E. Perkins, New York.
140 Case of Tuberculosis of the Tonsil and Administration of Potassium Iodid in Tuberculosis. N. L. Wilson, Elizabeth, N. J.
141 Cleft Palate. W. W. Carter, New York.
142 Hare-Lip Operation by New Method. Id.

133. This article was published in the *Pennsylvania Medical Journal*, April, and was abstracted in THE JOURNAL, June 6, 1908, p. 1943.

Medical Library and Historical Journal, Brooklyn, N. Y.

September, 1907.

143 Brief History of Antiseptic Surgery. F. C. Clark, Providence, R. I.
144 Charles Linnaeus, M. D. J. H. Hunt, Newton, N. J.
145 Doctors of Samuel Johnson and His Court. J. P. Warbasse, Brooklyn, N. Y.
146 Medical Departments in Public Libraries. S. H. Ranck, Grand Rapids, Mich.

Medical Fortnightly, St. Louis.

May 25.

147 Glimpses of Early St. Louis Medical History. W. B. Outten, St. Louis.

Alabama Medical Journal, Birmingham.

April.

148 Historical Sketches of Organizers of the Medical Association of the State of Alabama. E. H. Sholl, Birmingham.
149 Shock; Cause and Treatment. W. W. Harper, Selma.
150 Diagnosis and Prognosis of Pulmonary Tuberculosis. J. M. Lowrey, Birmingham.
151 Home Care and Feeding of Phthisical Patients. W. C. Gewin, Birmingham.
152 State and Municipal Control of Tuberculosis. R. B. Harkness, Birmingham.
153 Management of Normal Puerperium. R. H. Hamrick, Pratt City.
154 Rectal Anesthesia. W. T. Berry, Birmingham.

May.

155 Essentials and Non-Essentials of Physical Diagnosis. R. C. Cabot, Boston.
156 Epidemic of Jaundice in Talladega. D. P. Dixon, Talladega.
157 Infection of the Prostate. A. F. Toole, Birmingham.
158 Treatment of Deep-Seated Gonorrheal Infections with Gonococcic Vaccines. C. W. Shropshire, Birmingham.
159 Surgical Treatment of Gastric and Duodenal Ulcers, with Report of Cases. G. Torrance, Birmingham.
160 President's Address Medical Association of State of Alabama. S. W. Welch, Talladega, Ala.
161 Importance of the Study of Physiology by the General Practitioner. W. P. McAdory, Birmingham.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

June 6.

1 Dangers and Treatment of Myoma of the Uterus. C. Martin.
2 Present Knowledge Regarding Functions of Suprarenal Capsules. E. A. Schäfer
3 *Preparation and Use of Antirabic Serum, and Rabicidal Properties of Serum of Patients After Antirabic Treatment; Blood of Hydrophobia Patient. D. Semple.
4 Recent Cases of Cesarean Section. J. B. Hellier.
5 Protracted Use of Digitalis. R. E. Achert.
6 Suprarenal Hemorrhage in Infant; Relation to Hemophilia B. G. Morison.
7 *Appendix Rupture During Operation; Meaning of the Symptoms. F. R. B. Bisshopp and J. D. Malcolm.
8 *America's Triumph in Panama: Three Years' Medical and Sanitary Record in the Canal Zone. J. G. Leigh.

3. **Antirabic Serum.**—Semple summarizes his paper as follows: By immunizing horses with fixed rabies virus it is pos-

sible to prepare a serum having well-marked rabicidal properties. Normal horse serum is devoid of these properties. The rabicidal properties of this serum can be tested by mixing it with a fixed virus and subsequently using the mixture to inoculate susceptible animals, such as rabbits, subdurally. The indications for the use of such a serum would seem to be an adjunct to the ordinary method of treatment in severely bitten patients and late cases. In severely bitten patients coming early for treatment it might also be injected into the wounds and the contiguous tissues. The serum of patients after undergoing a course of antirabic treatment also gives evidence of containing rabicidal substances and the presence of these substances can be demonstrated in a manner similar to that mentioned above. Normal serum is devoid of these properties. The rabicidal substances in the serum of a patient after antirabic treatment are a possible index of the amount of immunity conferred and the efficacy of treatment. Prolonged treatment confers a higher degree of immunity, as judged by the rabicidal effects of the serum on fixed virus, than treatment extended over a shorter period of time. The blood of a patient suffering from hydrophobia fails to infect rabbits when inoculated subdurally. The serum of a patient in the early stages of hydrophobia is capable of prolonging the incubation period for fixed virus when mixed *in vitro* and inoculated subdurally in rabbits.

7. **Ruptured Appendix.**—Malcolm reports a case in which what was held to be an emergency operation for appendicitis was done. At the time "there was nothing to indicate that the patient's condition was a serious one, but it was considered wise to operate at once. The preliminary pain, the acute collapse, the subsequent quiescent state of the intestine, the fulness of the abdomen, and the continued resistance over the cecum, together with the absence of inflammatory symptoms and of a defined swelling led us to this decision." The appendix was found gangrenous and it ruptured during operation. Malcolm comments as follows: "I have published other cases in which a similar absence of inflammation has been observed in association with gangrene formation and if we consider those cases to which the term 'explosive' or 'fulminating appendicitis' have been given, much may be said in favor of the view that the illness depends on a gangrene formation which has caused no symptoms until perforation occurred by separation of the dead part. Such cases are often characterized at first by symptoms of shock and by collapse, which are easily accounted for as the results of perforation, but not as those of an acute inflammation. The inflammatory symptoms which do arise later may often be most satisfactorily interpreted as the effects of the presence of a gangrenous patch or of the discharge of the contents of the bowel into the peritoneal sac."

8. **American Triumph in Panama.**—Commented on editorially in this issue.

British Medical Journal, London.

June 6.

9 *Cerebral Influenza. R. Saundby.
10 Hemiplegia with Unilateral Optic Atrophy. R. T. Williamson.
11 Present Knowledge Regarding Functions of Suprarenal Capsules. E. A. Schäfer.
12 Case of Compound Follicular Odontoma. J. W. Cousins.
16 Plastic Resection of Breast and Its Bearing on Preliminary Cancer. F. T. Paul.
14 *Cancer of Mouth in Southern India; Analysis of 209 Operations. A. Fells.
15 *Treatment of Fracture of Femur in Newborn. R. Jones.
16 Plastic Resection of Breast and Its Bearing on Preliminary Incision of Breast Tumors. C. H. Whiteford.

9. **Cerebral Influenza.**—Saundby discusses exhaustively the literature of this subject and adds some cases of his own. Bacteriologic examination has revealed either no organism or streptococci, Pfeiffer's bacilli, or pneumococci. These cases represent not one but several conditions—a series of purely influenzal origin and in which influenza forms merely the soil in which other disease germs find the conditions favorable to their development. True cerebral influenza may cause a state of cerebral intoxication, which passes off without doing serious damage; or the poison may cause intense and fatal congestion with minute meningeal hemorrhages; or inflammation of the meninges; or finally acute hemorrhagic encephalitis associated sometimes with hemorrhage or red softening. In another category are cases of streptococcal or pneumococcal meningitis occurring after influenza and other forms of focal cerebral infection. Saundby describes the symptomatology as follows: "Usually after a short period, ranging from one to four days, during which the patient shows signs only of catarrh—and in some cases even this history may be wanting—he is seized with intense headache, with or without vomiting, or neuralgia, or an epileptic or apoplectic fit or aphasia, or there may be facial paralysis, monoplegia or hemiplegia, for the cerebral symptoms may be ushered in by any one of these symptoms. There may be a preliminary period of restlessness, with or without delirium; in others stupor or unconsciousness develops gradually or suddenly. There is usually fever, varying in amount. The muscles are often rigid; stiffness of the neck, opisthotonos, and especially contraction of the masseters and trismus, have been frequently noted; there may be twitchings of the limbs or clonic spasms of the head or extremities, disturbances of vision, inequality or irregularity of the pupils, paralysis of the sphincters and *tâche cérébrale*. The reflexes are generally preserved and there has been no mention of the presence of Kernig's sign. Optic neuritis is occasionally seen: albuminuria has been generally absent, but was observed once or twice; Cheyne-Stokes breathing has been noted in a few cases." The prognosis should be guarded but not hopeless. In treatment we are comparatively powerless and must look forward hopefully to the extension of antitoxic therapy. We might try small doses of quinin as recommended by Sir William Broadbent. Feed the patient with milk or egg beaten up or with *café au lait*. Rectal enemata may be given if swallowing is difficult, or in case of relaxed sphincter, subcutaneous injection of ½ a pint to a pint of physiologic saline solution. Hypodermic injections of caffein, 5 grains (0.32), in heart collapse, or camphorated oil, 10 to 15 minims of a 1 in 10 solution.

13. **Cancer of Tongue.**—Paul has operated by Butlin's method during the years 1905-1907 in 35 cases of cancer of the tongue, with 2 deaths, both from sepsis. Lately he has followed Sir James Barr's suggestion to combat this danger, viz., in patients whose condition suggests a serious risk of sepsis, a dose of polyvalent serum is given before operation. His experience of Butlin's operation is entirely favorable. In the primary operation on the tongue, however, he advocates for all but the most favorable cases, a return to Kocher's and Syme's incisions, which involve the clearance of submental and submaxillary areas at the primary operation, but leave the carotid area and what may be considered necessary of the posterior triangle, for the second operation.

14. **Cancer of the Mouth.**—Fells discusses buccal cancer on a basis of 209 operations with 6 deaths. In 58 cases the cheek was affected, in 68 the lower jaw, in 5 the upper jaw, in 18 the tongue, in 21 the lips. Of preliminary measures for lessening hemorrhage the administration of calcium chlorid for two or three days before operation appeared of distinct value. A preliminary tracheotomy is valuable, especially when help is short. The large raw surfaces left in the mouth are painted with Whitehead's varnish or zinc chlorid solution. There were no subsequent lung complications and no serious septic troubles.

15. **Fracture of Femur in Newborn.**—Jones has treated 26 cases of fracture of femora occurring during delivery. A newly born baby with a broken thigh requires a great deal of management, and a splint is all but useless, which is not easily and surely retained or does not allow the child to be moved, fed, or washed. He uses a Thomas' knee splint. Extension plasters are applied to the leg below the fracture and the limb is passed through the ring which encircles the thigh at the groin, and is padded over with felt, leather and impervious oilskin. The thigh is pulled, and extension is maintained by the plasters which are affixed to the lower end of the splint. A bandage is placed round the limb and no further treatment is needed than now and again to extend the limb by pulling on the plasters. The infant can be carried, nursed, left to play on the floor, without displacement of fragments. It can be applied in five minutes without an anesthetic

Medical Press and Circular, London.
June 3.

17 Infantile Marasmus. G. F. Still.
18 The Milk Problem, or the Production and Distribution of Pure Milk. J. C. Thresh.
19 Ionic Medication in Obstinate Pelvic Disease in Women. S. Sloan.
20 The Cure Craze of To-day. R. M. Leslie.

Clinical Journal, London.
June 3.

21 Spread of Malignant Disease to the Lymphatics of the Groin. C. B. Lockwood.
22 Prognosis and Treatment of Acute Anterior Poliomyelitis. J. S. R. Russell.

Journal of Tropical Medicine and Hygiene, London.
June 1.

23 Hydatid Disease in Western Australia. J. B. Cleland and H. Cumpston.
24 Three Cases Treated with Antistreptococcic Serum. G. F. Campbell.

Practitioner, London.
May.

25 *Vaccine Therapy and Therapeutic Immunization. Sir A. E. Wright.
26 *The Opsonic Index; Accuracy and Errors. A. Fleming.
27 *Opsonic Index in Infants. J. H. Wells.
28 *Experimental Error in Method of Determining Tuberculo-Opsonic Index. A. H. White.
29 *Statistical Considerations Relative to Opsonic Index. M. Greenwood, Jr.
30 Treatment by Bacterial Vaccines. A. B. Harris.
31 Opsonic Index in Treatment of Pulmonary Tuberculosis. A. C. Inman.
32 Treatment of Pulmonary Affections by Inoculation of Vaccines Controlled by Opsonic Index. J. C. Briscoe and E. U. Williams.
33 *Surgical View of the Opsonic Method. H. S. Collier.
34 Treatment of Skin Diseases by Inoculation After Opsonic Method. A. Whitfield.
35 Treatment of Lupus and Tuberculous Disease of the Ear, Nose and Throat by Inoculation. H. F. Tod and G. T. Western.
36 Ulcerative Endocarditis; Its Treatment by Vaccine Therapy. T. J. Horder.
37 Tuberculin (T. R.) Treatment of Tuberculosis of Genitourinary Organs. J. W. T. Walker.
38 Opsonic Method and Vaccine Therapy in Relation to Diseases of Eye. R. W. Allen.

25. **Vaccine Therapy and Immunization.**—Wright says the possibilities of vaccine therapy in the treatment of localized bacterial infections have been only very incompletely explored. After enumerating some of the problems that remain for solution in the future, Wright addresses himself to a detailed consideration of the two following questions: 1. Would it not be possible to achieve and maintain an increased output of protective substances apart from periodic measurements of the content of the blood in protective substances? Associated with this is the question as to whether the technic which we use for the determination of the opsonic index gives accurate and useful results. 2. What is the best method of directing such protective agencies as a patient may be possessed of or may acquire by immunization, to the destruction of the microbes in the focus of infection? In answer to the first question the following two suggestions have been made: 1. By clinical observations and blood testings such a knowledge of the effects of bacterial vaccines has been arrived at, as would make it possible to guarantee a good result from the inoculation of a definite quantum of a standardized vaccine. 2. The clinical symptoms of the patient will furnish to the immunizator a guide by which he may regulate the immunization procedures. The latter, again, he considers in relation to four different classes of cases, as follows: (a) Localized infections of such nature that the clinical observer can immediately either see for himself or learn of every change that occurs in the focus of infection; (b) strictly localized infections where conditions are unfavorable to observations of changes in their condition; (c) acute febrile conditions; (d) cases in which all local and general symptoms are in abeyance or have returned to the condition which prevailed previous to inoculation. He discusses these propositions in detail under the foregoing heads, and concludes that "while we can in many cases conduct our immunizations aright by relying on the experience gained in the past and on clinical investigation, there are whole classes of cases—these being cases where the only hope for the patient is to be found in the proper conduct of immunization procedures—where the clinical symptoms can not be trusted to furnish the necessary guide. In regard to the accessory question, as to the accuracy and usefulness of the index estimation, he answers in the affirmative. With regard to the second question he considers in detail the general question of the distribution of antibacterial agents in the normal organism; the nature of the inflammatory reaction which supervenes on a bacterial invasion of the tissues, and changes in the distribution of the antibacterial agents which are effected by that reaction; cases in which microbes have survived the inflammatory reaction that has supervened on their invasion, and have established themselves in a nidus in the tissues. He then considers the therapeutic measures by which we may bring the antibacterial agencies of the circulating blood into effective operation on the microbes in a nidus of infection. These he enumerates and discusses under the following subheads: 1. Measures favoring the transfer of antibacterial agencies from the blood to the site of infection. 2. Measures opening the way for the entrance of the antibacterial element into the focus of infection. Finally he considers the organization of the profession for the work of therapeutic immunization.

26. **Accuracy of Opsonic Index.**—Fleming publishes his observations in Wright's laboratory and arrives at the following conclusions: The variation of the tuberculo-opsonic index of healthy individuals is very small, and therefore normal serum furnishes a good standard for the comparison of infected persons from day to day. With a diminution of the number of washed corpuscles in the opsonic mixture there is an increase in the amount of phagocytosis. Agglutination of the washed red corpuscles increases the amount of phagocytosis. The tuberculo-opsonic index is the same whether washed corpuscles are used from a healthy or tuberculous individual. If red corpuscles are taken up with serum the amount of phagocytosis is reduced. Serum sealed up in a capsule at room temperature retains its full power, in the case of healthy blood, for at least a week, and in the case of pathologic blood, for a day or two less. Blood capsules left widely open for several hours give very untrustworthy readings. Two practiced observers can count the same slides, and in almost all cases obtain results that do not vary 10 per cent. Duplicate estimations of the tuberculo-opsonic index of tuberculous patients can be performed, the results differing from each other by less than 20 per cent., except in rare instances (1 in 26).

27. **Opsonic Index in Infants.**—Wells, from observations on newborn babies, concludes that a low opsonic index is not diagnostic in children under 1 year old. In infants a low opsonic index is not inconsistent with health, and the child may be thriving well with a declining index. When the opsonic index is low it will rise in response to the stimulus of an inoculation with bacterial vaccine. The healthy breast-fed infant appears to possess no advantages over the healthy artificially-fed child. The anti-bacterial defense in children can not depend on the opsonic content of the serum.

28. **The Experimental Error in Opsonic Index.**—White concludes that, while imperfect mastery of details may cause a greater margin of error than will occur with one more familiar with the technic, when once these details are moderately mastered the error will be insignificant. His own experience as a beginner contrasted with his results to-day, gives a maximal experimental error ranging from 4 to 13 per cent.

29. **Statistics of Opsonics.**—Greenwood considers how far the "opsonic index" is a trustworthy guide in the diagnosis and treatment of disease, which must not be confounded with the question of therapeutic inoculations as curative or prophylactic methods. He concludes that there is no valid evidence that the limits of error do not exceed 20 per cent. of the mean value. The asymmetry of the distributions, so far examined, is so great that, in the case of low emulsions, errors in excess are more frequent than "errors" in defect of the mean. There is reason to hope (but no proof) that with high emulsions the variation may become more symmetrical. He suggests that: (a) high indices should be more closely scrutinized than low values; (b) it is better to work with tolerably thick emulsions, giving an average for the normal serum of not less than 3 bacilli to the cell.

33. **Surgical View of Opsonic Method.**—Collier considers that to do the best for their patients surgeons must be clinically associated with the opsonists.

British Journal of Children's Diseases, London.

May.

39 *Congenital Hypertrophic Stenosis of the Pylorus; Criticism of Its Pathology in Relation to Treatment. E. Cautley.
40 *Aural Manifestations of Inherited Syphilis. M. Yearsley.
41 Weak Nervous Children and Arsenic. E. F. Christin.

39. **Congenital Pyloric Stenosis.**—Cautley holds that there is grave danger of ascribing to pyloric hyperplasia the symptoms due to spasm, with or without dilatation of the stomach; that there are mild degrees of hyperplasia compatible with life and giving rise to no serious symptoms; that some of these mild cases depend for their fatal issue on secondary complications which are curable by diet and lavage; that the majority of the cases tend to gradual contraction of the circular muscle and a degree of obstruction which is incompatible with life and only curable by surgical methods. He protests most strongly against delay in adopting surgical measures, as he is convinced that the bulk of the supposed cures of this affection by medical means are really instances of simply pyloric spasm. Great care is essential in distinguishing between spasm and hypertrophy, or many unnecessary operations will be performed.

40. **Inherited Syphilis of Ear.**—Yearsley agrees with Hermet and Baratoux' estimate of ear affections in inherited syphilis, viz., one-third. The most important complications are those affecting the labyrinth, which is attacked in two ways, one group having the onset without vertigo, in the other vertigo being a marked feature. In the first form the pathologic condition consists chiefly in a chronic osteitis leading to gradual, more or less complete, occlusion of the cavities of the internal auditory meatus and bony labyrinth. The symptoms and pathologic findings resemble those met with in the tertiary form of acquired disease. The second group is uncommon. The symptoms are best accounted for by an increase of tension due to exudation. When acute, the pressure causes immediate destruction of the labyrinthine nerve endings; when more chronic there is a constantly recurring increase of tension. This group resembles the manifestations of secondary acquired disease. The labyrinth is usually attacked between the ages of 8 and 25. Usually ear troubles follow eye troubles. The ordinary treatment of inherited syphilis does not appear to have much effect on the eye troubles. The author has found pilocarpin, given by injection in labyrinthine deafness due to both acquired and inherited syphilis a very valuable agent if used early. In a girl 11 years old, 1/12 grain, (.005) gradually increased to 1/5 grain (.012) daily, resulted in 50 per cent. gain in bone conduction in a fortnight.

Intercolonial Medical Journal of Australasia, Melbourne.

April.

42 Constipation and Its Treatment. J. Jamieson.
43 Hereditary Cerebellar Ataxia. J. N. Morris.
44 Melbourne Milk Supply. T. Cherry.

Journal of Laryngology, Rhinology and Otology, London.

June.

45 Hemorrhage Following Quinsy: Ligation of the Common Carotid Artery; Recovery. J. E. Newcomb.
46 Clinical Pathology of Aural Discharges. W. Wingrave.
47 Keratosis Laryngis Circumscripta, with Notes of a Case. W. G. Porter.

Obstétrique, Paris.

April, N. S. 1, No. 2, pp. 129-288.

48 Collargol in Puerperal Infection. E. Bonnaire and C. Jeannin.
49 Retrouterine Sensory Corpuscles in Human Fetus. H. Keiffer.
50 Bronchiectasis in the Fetus. (Poumon polykystique.) M. de Kervilly.
51 *Suprarenal Capsules in Puerperal Eclampsia and Pregnancy Nephritis. J. L. Chirié.
52. *Protracted Decalcification of Pregnancy. (Décalcification gravidique prolongée.) Marquis.

51. **The Suprarenal Capsules in Eclampsia and Nephritis.**—Chirié tabulates in detail the findings in respect to the suprarenals in 12 cases of puerperal eclampsia, 1 of retroplacental hemorrhage, 4 of pregnancy nephritis, 1 of pyelonephritis, 3 of pneumonia, 2 of puerperal infection, 4 of tuberculosis. These findings show the constancy of a notable hyperplasia of the cortex of the suprarenals in puerperal eclampsia, retroplacental hemorrhage and pregnancy nephritis, with considerable hyperplasia of the medulla in many instances. This hyperplasia seemed to be primary, preceding the accompanying hypertrophy of the heart and arterial hypertension.

52. **Prolonged Decalcification in Pregnancy.**—Marquis confirms Par's assertions in regard to the loss of lime which occurs during pregnancy. It may assume pathologic proportions, revealed by the looseness of the pelvic articulations, the presence of osteophytes and tender spots on the bones, and the high percentage of lime in the blood, urine, and stools. He has recently observed a case of this decalcification commencing in pregnancy but continuing afterward. The painful laxness of the symphysis persisted and the patient was unable to walk. While in the maternity hospital she was given food containing large proportions of lime, and the decalcification was temporarily held in check.

Presse Médicale, Paris.

May 20, XVI, No. 41, pp. 321-328.

53 Characteristics of Passive Immunity Conferred by Serum Treatment. B. Weill-Hallé and H. Lemaire.

May 23, No. 42, pp. 329-336.

54 Prophylaxis of Syphilis in the Army. G. H. Lemoine.

May 27, No. 43, pp. 337-344.

55 Spontaneous Sporotrichosis in Three Puppies. Gougerot and Caraven.
56 Botryomycosis in Man. M. Letulle.
57 *Lumbar Appendicectomy. F. Legueu.

May 30, No. 44, pp. 345-352.

58 *Early Syphilitic Paralysis and Neuralgia. Debove.

57. **Lumbar Appendicectomy.**—Legueu mentions a few cases in which movable kidney apparently caused disturbances which were not cured by operative fixation of the kidney. Appendicectomy later banished the last disturbances. In another case the appendix was removed for two mild attacks of subacute inflammation, but nothing was done for the movable kidney. The disturbances persisting, nephropexy was done and the patient was restored to health. He advocates removing the appendix whenever there is occasion to fasten a movable kidney, and gives an illustrated description of the preferable technic.

58. **Early Syphilitic Paralysis and Neuralgia.**—Debove reports four cases. In the first and second the paralysis affected the seventh nerve with neuralgia in the fifth; in the third case there was paralysis of the seventh nerve, and in the fourth, of the third and seventh nerves with neuralgia in the fifth. These disturbances developed early in the course of syphilis, and the resemblance is striking between them and similar symptoms in tabes. He regards the process as identical in both, a reaction on the part of the meninges, acting on the roots of the nerves. Sypailitic neuralgia and paralysis are therefore signs of incipient tabes, and require energetic treatment.

Revue de Gynécologie, Paris.

January, XII, No. 1, pp. 1-192.

59 The Levator Ani and Prolapse of Genital Organs. (Le releveur pubo-vaginal et les prolapsus génitaux.) G. Piquand and R. Hue.
60 *Postoperative Menstrual Cyst Hematomata. L. Dartigues and J. G. Joannidis.
61 *Fixation of Uterus Between External and Internal Os. (Hystéropexie isthmique.) P. Delbet and J. Caraven.
62 *Retroperitoneal Lipomata. R. Proust and A. Trèves.

March, No. 2, pp. 193-384.

63 Coexistence in the Tunica Vaginalis of Uterus, Tubes and Testicles. V. Cornil and Brossard.
64 *Nature of Hydatidiform Mole. L. Nattan-Larrier and A. Brindeau.
65 Anatomy of Kidney Pelvis and Surgical Exploration of Kidney. (Anatomie du bassinet et exploration sanglante du rein.) J. Albarran and E. Papin.
66 *Primary Sarcoma of Great Omentum. (Sarcomes primitifs du grand epiploon.) E. and R. Bonamy.

60. **Postoperative Menstrual Cyst Hematomata.**—Dartigues applies this term to the cysts which form on the relics of adnexa. The diagnosis is based on the pains in the hypogastrium, phenomena of general congestion in the region, and a palpable tumor—all these signs recurring with the menses and partially subsiding with them. There is danger that the cyst may rupture or suppurate or induce formation of adhesions with occlusion of the intestines. A few cases are on record, and he reports another, in which prompt operative

treatment restored the patients to health. In a few other cases intervention came too late, and the patients succumbed to septicemia.

61. **Abdominal Fixation of Uterus at the Cervix.**—Delbet and Caraven have examined recently 23 patients treated by this technic between 1896 and 1906. They give an illustrated description of their technic with summaries of the case histories. A few of the women have passed through a pregnancy since without disturbances. Abortion occurred in two cases, but the hysteropexy could not be incriminated in either instance. The absence of adhesions above the internal os allows the uterus to enlarge normally and no complications of any kind were observed. Six of the eleven women who conceived later had been sterile before the operation.

62. **Retroperitoneal Lipomata.**—Proust summarizes 89 cases from the literature. The growths are not malignant, but are liable to become dangerous from their close adhesion to adjacent viscera and their size. Extirpation has given 30 per cent. mortality on account of the necessary resection of sound organs imbedded in the growth.

64. **Nature of Hydatidiform Mole.**—In about 50 per cent. of the cases of chorioepithelioma there is a history of a preceding mole, but only about 10 per cent. of the moles on record were followed by a malignant growth. There is no means of distinguishing a harmless mole from one destined to become malignant. In a number of moles examined by Brindeau all presented the characteristics ascribed exclusively to malignant moles, and yet two of the patients remained in good health and bore healthy children later. Careful medical supervision will reveal the first symptoms of recurrence of the mole, he says. The curette will confirm or exclude the possibility of chorioepithelioma, and hysterectomy then will be in plenty of time.

66. **Sarcoma of Omentum.**—Bonamy adds another to the fifteen cases on record and summarizes the details of each. Only five of the patients survived the operation for a year or more in the twelve cases in which it was attempted. Sarcoma of the omentum is always very vascular and the operative shock is liable to be unusually severe. In only one of the cases was the growth differentiated correctly. It is generally on the median line and develops downward, pushing down the genital organs. The upper limit of the area of dulness is usually concave. The effusion in the abdominal cavity is inclined to be hemorrhagic. The course averages about a year.

Revue de Médecine, Paris.

April, XXVIII, No. 4, pp. 305-400.

67 Reactions of Surface of Lung and Pleura. (Réactions pleurales corticales.) L. Malloizel. Commenced in No. 3.
68 *Ocular Tuberculin Reaction in 300 Cases. (Ophthalmo-réaction.) E. Ausset.
69 Essential Polyuria Improved by Abstinence from Salt. (Polyurie essentielle améliorée par la déchloruration.) M. Poisot.

68. **Ocular Tuberculin Reaction.**—Ausset has applied the test in 300 cases and considers it a harmless procedure for revealing tuberculosis in process of evolution.

Semaine Médicale, Paris.

May 20, XXVIII, No. 21, pp. 241-252.

70 Suprarenal Extract and Osteomalacia. R. de Bovis.
71 Conditions for Admission of Foreign Students into French Medical Schools.

May 27, No. 22, pp. 253-264.

72 Greek Vase with Representation of Polyclinic, 500 B. C. (Un aryballe du Ve siècle avant notre ère représentant une policlinique grecque.)
73 *Mucomembranous Non-inflammatory Affections of the Colon. (Colica mucosa.) L. Cheinisse.

73. **Colica Mucosa.**—Cheinisse reviews the literature on the subject of the secretory neurosis which Nothnagel differentiated from mucomembranous enteritis, as there is no inflammatory substratum. Opinions are contradictory in respect to the presence or absence of an anatomic basis; Cheinisse concludes that only prolonged and minute study of the case will decide whether there is inflammation or not. If the trouble is merely mucous hypersecretion of nervous origin, recurring periodically, the stools will be free from mucus in the intervals between attacks.

Archiv für Gynäkologie, Berlin.

LXXXV, No. 2, pp. 251-482.

74 Duration of Pregnancy. (Wann tritt die Geburt ein?) F. Schatz.
75 *Importance for Prognosis of Formed Elements of Blood in Puerperal Affections. E. Gräfenberg.
76 *Endotheliomata of Ovaries and Tubes. (Endotheliom des Ovariums und der Tube.) P. Kworostansky.
77 *Hemorrhage in Chronic Meritis. (Blutgen bei der sogenannten chronischen Metritis.) G. Ahreiner.
78 Primary Choreoepithelioma of the Ovary. Y. Iwase.
79 Myoma of Rectum. (Myome des Mastdarmes.) P. Becker.
80 Combination of Ovarian Carcinoma with Other Tumors. (Multiplicität der Genitaltumoren.) E. Bircher.
81 *Supernumerary Mammæ in Axillæ. (Achselhöhlenbrüste bei Wöchnerinnen.) F. Kayser.

75. **The Formed Elements in the Blood in Prognosis of Puerperal Affections.**—Gräfenberg has been conducting research in this line for some time, and thinks that it is important to take note of the leucocyte curve, the curve of the small lymphocytes, and, above all, of the number of nuclei. The findings are especially instructive in gonorrheal affections. He relates extensive experiences which show that the curve of the number of nuclei was constantly downward in the cases which ended fatally, while it was as constantly upward in the favorable cases.

76. **Origin of Endothelioma.**—Kworostansky relates the microscopic findings in cases of endothelioma of ovaries or tubes in connection with the case histories. They show that endothelioma develops in consequence of mechanical injury —pressure and rupture, or of chemical injury—necrosis of the tissues under pressure and absorption of the decaying tissue elements into the blood. When the reparatory process is once started it may continue beyond bounds and induce the formation of a neoplasm. The peritoneum is a favorable site for such a process. In one case there was considerable neoformation of endothelium in certain vessels of the peritoneum which had been compressed by a hematoma in the broad ligament causing an inflammatory reaction.

77. **Hemorrhage in Chronic Metritis.**—Ahreiner refers to the metritis of the parenchyma alone, the mucosa being intact, of which he relates five cases with the microscopic findings in the uteri removed on account of total prolapse or uncontrollable hemorrhage. The main cause of the hemorrhage must be sought outside of the uterus. The bleeding occurs more readily when the uterine vessels are sclerotic, but the latter alone is not able to induce hemorrhage without the general cause, inducing congestion in the region.

81. **Mammæ in the Axillæ.**—Kayser reported a few years ago cases of tumors observed in the axillæ of women. He here describes six more cases, all in puerperæ. The women were not much annoyed by the tumors although they increased in size during the menstrual periods and became large during the puerperium. He regards them as supernumerary mammæ, evidently an atavistic anomaly. He encountered these six cases in the course of eleven months; all but one of the patients were i-paræ. He has found nineteen similar cases in the literature.

Archiv für Kinderheilkunde, Stuttgart.

XLVIII, Nos. 1-2, pp. 1-160.

82 *Septic Arteritis and Aneurism in Children. (Klinische Beiträge.) A. Baginsky.
83 *Brain Tumors in Children. (Die radiologische Topik intrakranieller Tumoren im Kindesalter.) H. Klose.
84 *Relations Between Lactation and Menstruation. (Beobachtungen an stillenden Frauen.) S. Jacobius.
85 *Long Retained Capacity for Lactation in Non-nursing Mothers. Id.
86 Topography of Lymphatic Apparatus in Children and Its Clinical Importance. (Topographie des Lymphgefässapparatus im kindlichen Organismus.) A. Most.
87 The Budapest Asylum for Friendless Children (Das Budapester staatliche Kinderasyl.) F. v. Torday.
88 *Periodical Vomiting. (Das periodische Erbrechen.) J. S. Arkawin.

82. **Septic Arteritis in Children.**—Baginsky discusses the literature on aneurisms in children, and reports a case of aneurism of the abdominal aorta and subclavian artery in a girl under 8. The eye findings suggested inherited syphilis, but the symptoms indicated septic infection. Examination under chloroform revealed aneurismal enlargement of the abdominal aorta and other signs indicated streptococcus arteritis with a

tendency to enlargement in various arteries, thrombosis and obliteration of the vessels.

83. **Localization of Brain Tumors in Children.**—Klose reports a case in which a sarcoma developed in the cerebellum after two severe blows on the head. In the course of four years pronounced psychic disturbances became manifest, but there were no characteristic focal symptoms and no cerebellar ataxia. Radioscopy showed a shadow in the frontal lobe which was assumed to be cast by a tumor. No tumor was found at the operation, but the third ventricle was much enlarged, with its contents under high pressure, and this condition had been responsible for the shadow cast. He warns that this physical phenomenon in the child brain under certain conditions may simulate a tumor in the Roentgen picture. The case also teaches that internal hydrocephalus may occur early and be intense, with a tumor in the cerebellum, and may complicate the topical picture in the most deceptive manner and induce rapidly progressive mental deterioration. The trephining in the case reported did not cause any motor disturbances notwithstanding the extensive destruction of the right temporal lobe. In another case of hydrocephalus benefit was derived from repeated lumbar puncture, the boy recovering consciousness even the last time and saying that he felt better, but then he suddenly succumbed. Klose concludes his monograph with the remark that pediatrists, more than anyone else, are interested in efforts to change the present merely palliative treatment of brain tumors in children into the true causal-surgical treatment, which improved radiographic technic will immeasurably promote. Pediatrists and radiologists should work side by side in exploring this interesting borderland.

84. **Relations Between Lactation and Menstruation.**—Jacobius found 79 menstruating in 180 women examined about the sixth month after childbirth. The type of menstruation was not quite normal, but no interference with the nursing capacity was observed in any instance. The women were under constant control and prizes were given for the best "nurser." The children increased in weight, even with the most profuse menorrhagia, in nearly every instance. The majority of the children showed transient disturbance, restlessness, or a tendency to diarrhea or dyspepsia, and in a few cases they vomited the milk, but these were all transient disturbances and the children thrived.

85. **Retention of Capacity for Production of Milk by Non-Nursing Mothers.**—Jacobius has been able to have women nurse their infants, even after the child has not been nursing for several weeks, and even in women who have not nursed the infant at all after its birth, the interval ranging from three to twenty-six days. Good results were obtained with a tube fastened to an ordinary rubber nipple, which the mother could use herself, sucking the end of the tube. The infants never seemed to suffer from the composition of the milk after the long suspension.

88. **Periodical Vomiting in Children.**—Arkawin has observed four cases, in all of which the patients had neuropathic inheritance with a tendency to obstipation. The vomiting ceased when the intestinal functions were regulated.

Berliner klinische Wochenschrift.

June 1, XLV, No. 22, pp. 1041-1080.

89 *Antitryptic Power of Human Blood Serum in Cancer, etc. (Antitryptische Kraft des menschlichen Blutserums.) L. Brieger and J. Trebing.
90 *Pubiotomy. P. Kroemer.
91 Complement-Binding Substances in Urine in Syphilis. (Komplementbindende Stoffe im Harn Syphilitischer.) F. Blumenthal and U. J. Wile.
92 Edestin Test for Pepsin. W. Wolff and Z. v. Tomaszewski.
93 Bisystole—Interrupted Contraction of Left Ventricle, and Phenomena in Arteries with Aortic Valvular Insufficiency. (Ueber die diskontinulerliche, in zwei Absätze geteilte Kontraktion des linken Ventrikels des Herzens, etc.) W. Obrastzow.
94 Essential Ingredients of Breast Milk. (Zur Frage natürlichen Nutzstoffe in der Frauenmilch.) E. Müller.
95 Elimination of Pepsin in Urine. G. G. Wilenko.
96 Bacteriology and Prognosis. W. Liepmann.

89. **Antitryptic Power of Human Blood Serum.**—Brieger and Trebing found that normal blood serum contains sufficient antibodies to inhibit the digesting action of a 1 per cent. solution of trypsin on the Loeffler plate in the proportion of 1 to 3. A distinct reaction still occurs in a strength of 1 to 4, in a few cases 1 to 6. Twelve patients with diabetes examined showed a loss of inhibiting power in 7, and normal conditions in the others; about the same findings were obtained in 4 patients with tuberculosis, in 8 with non-malignant stomach affections, 6 with various other affections, and in 4 with syphilis. On the other hand, the inhibiting power of the serum was very much increased in each of 35 patients with cancer, as much as from 1 to 10 and 1 to 20 in the majority. The same findings were obtained in 8 cases suspicious of carcinoma. In 3 cases in which a cancer had been removed a year or more before, the antitryptic action approximated the normal type, as also in 6 cases of non-malignant tumors. This trypsin reaction may aid in the differentiation of carcinoma, although the reaction is not specific for cancer but merely denotes considerable inhibiting power in regard to trypsin, which is observed also in severe blood affections. The authors are now engaged in research as to the possible influence on this reaction of ingestion of trypsin.

90. **Pubiotomy.**—Kroemer reports the experiences with pubiotomy in Bumm's service at the Charité, Berlin—a total of 53 cases. Nine of the women have passed through a second pregnancy since. The results confirm the advantages of the operation; the great difficulty is the selection of the proper cases for this technic. The sawing of the bone is not the danger for the woman, but the too rapid passage of the head. Every effort must be made to have the birth proceed spontaneously, and pubiotomy should be applied only when vigorous uterine contractions give prospect of spontaneous delivery. Complications, such as prolapse of the cord, stricture of the soft parts, infection and eclampsia, contraindicate pubiotomy. Recent examination of 34 of the women shows them free from disturbances in gait, and with unimpaired earning capacity. The cicatrix in the bone seems to be permanently flexible in all but five women. This allowed the pelvis to enlarge spontaneously in all but one of the 9 childbirths later. He thinks that these pelvis-enlarging operations will tend to reduce the number of obstetric operations. Relying on pubiotomy, the natural forces can be utilized to their last possibility.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena.

May 7, XI, No. 8, pp. 289-320.

97 *Occult Blood in Stools and Stomach Content and Its Importance for the Early Diagnosis of Organic Gastrointestinal Affections. (Nachweis geringer Blutmengen in den Fäces und im Mageninhalt.) L. Isler. Collective Review.

May 22, No. 9, pp. 321-368.

98 *Operative Treatment of Emphysema of the Lung. L. Müller.

97. **Occult Blood in Stools and Stomach Content in Diagnosis of Cancer.**—Isler reviews forty-eight articles that have been published in Germany on this subject since Boas first called attention to the diagnostic importance of invisible blood in the feces. Invisible hemorrhage never occurs, it seems, in purely nervous stomach affections, but may be found in case of insufficiency of the stomach, due to cancer or non-malignant stenosis. The constant positive blood reaction in the stools, with still good motor functioning on the part of the stomach, no free hydrochloric acid and no lactic acid, is presumptive of the presence of cancer.

98. **Operative Treatment of Emphysema of the Lung.**—Müller has found only eleven articles on this subject, although Freund's first communication was published exactly fifty years ago. Good results have been obtained in the few cases adapted for the operation in which it has been done, as has been already mentioned in these columns.

Deutsches Archiv für klinische Medizin, Leipsic.

May 20, XCIII, No. 3, pp. 223-330.

99 Ferricyanid Method for Determining Presence of Gas in Blood for Clinical Purposes. (Ferricyanidmethode zur Blutgasbestimmung.) J. Barcroft and P. Morawitz.
100 *Experimental Research on Reaction to Tuberculin. H. Bahrdt.
101 Epidemic Cerebrospinal Meningitis. (Zur Lehre von der übertragbaren Genickstarre.) W. Ebstein.
102 Influence of Phosphorus Intoxication on Formed Elements of Blood. (Einfluss der Phosphorvergiftung auf die morphologischen Elemente des Blutes.) T. Pisarski.

103 Influence of Human Blood Sera on Proteolytic Leucocyte Ferment and Diagnostic Importance of Such Antiferment Action. C. Klieneberger and H. Scholz.
104 Experimental Study of Blood Pressure and Influence of Food in Chronic Nephritis. (Verhalten des Blutdruckes bei chronischer Nephritis.) J. Brodzki.

100. **Experimental Research on Reaction to Tuberculin.**—Bahrdt reports among other findings that the reaction to tuberculin becomes less pronounced if part of the tuberculous process is excised. This seems to prove that the tuberculous focus is an important factor in the reaction.

Deutsche medizinische Wochenschrift, Berlin.

May 21, XXXIV, No. 21, pp. 905-952.

105 *Diagnosis and Treatment of Psychoses in Children. (Kindliche Seelenstörungen.) Raecke.
106 Indications for Abortion on Account of Morbid Dread of Labor. (Indikationsstellung für den künstlichen Abort wegen psychischer Krankheit.) M. Friedmann. Commenced in No. 20.
107 *Parabiosis and Pancreatic Diabetes. J. Forschbach.
108 *Two Cases of Lung Affections Following an Accident. (Lungenerkrankung im Anschluss an einen Unfall.) W. Baumann and F. M. Groedel.
109 Prognosis and Treatment of Periappendicitis and Para-appendicitis. Gebele.
110 Acute Staphylococcus Glossitis. A. D. Pawlowsky.
111 *Quinin in Syphilis. H. Napp.
112 Efficacy of Roentgen Treatment for Nail Affections. (Behandlung kranker Nägel mit Röntgenstrahlen.) C. Schindler.
113 Dosage of Roentgen Rays. (Benutzung des Milliampèremeters und der parallelen Funkenstrecke bei der Dosierung der Röntgenstrahlen.) H. E. Schmidt.

May 28, No. 22, pp. 953-992.

114 *Early Operation in Severe Acute Cholecystitis. Riedel.
115 *Prostatectomy at Two Sittings Under Local Anesthesia. Lanz.
116 Treatment of Congenital Pseudarthrosis of Leg. (Behandlung der angeborenen Unterschenkelpseudarthrose.) L. Rauenbusch.
117 Shoe for Flat Foot. (Spezieller Plattfussstiefel.) C. Lengfellner.

105. **Diagnosis and Treatment of Psychoses in Children.**—Raecke discusses catatonia, melancholia and other psychoses as occurring in children. Catatonia has been observed before the age of 7, but generally does not appear until after the eleventh year. He regards it as the most important psychosis of childhood. External causes play only a subordinate rôle in its development; in most cases there is an inherited nervous taint. The preliminary stage of depression may be mistaken for melancholia at first. Treatment of all acquired psychoses in children is symptomatic. The little patient should be kept in bed with strict supervision. Serious attempts at suicide are not rare among such children. Excitement is best combated by prolonged warm baths and warm wet packs. The food should be light, nourishing and given at short intervals with the stomach tube, if necessary. It is important to keep constant control of the weight with the scales. After recovery, rest and freedom from excitement must be ensured and a healthful and non-strenuous occupation selected in later life.

107. **Pancreatic Diabetes and Parabiosis.**—Forschbach refers to Sauerbruch's recent reports on parabiosis, as he calls the union of living animals by a permanent organic joining of the abdominal cavities. He has thus united an animal with diabetes following removal of the pancreas with another healthy animal. By the parabiosis the tendency to diabetes of the pancreatectomized animal was reduced or entirely abolished.

108. **Lung Affections Following Trauma.**—Baumann and Groedel relate the history of a case of "contusion pneumonia" in a young man. In a second case the Roentgen findings indicated the same, but autopsy disclosed that there had been no pneumonia. The apex was compressed by a large epipleural hematoma, and the first rib was fractured. The injury was received while wrestling, and the young man complained that something had broken in his right shoulder. The pains were ascribed to rheumatism by a physician, and the patient returned to work for a time. The hematoma simulated infiltration of the apex in the Roentgen picture and it also concealed the fracture of the rib.

111. **Quinin in Syphilis.**—Napp first tests the tolerance of the patients for quinin for two or three days, and then makes an intravenous injection of quinin, injecting from 0.5 to 0.8 gm. (7½ to 12 grains) for two days and then every second day. He follows Lenzmann's technic and is convinced that this treatment of syphilis has a promising future. He has applied it in twenty-two cases as he relates in detail, the results confirming the efficacy of quinin alone without specific local measures. The by-effects were slight and had all vanished in two minutes after the injection. None of the patients experienced any by-effects in the ears, although they always had them when quinin was taken by the mouth.

114. **Early Operation in Severe Acute Cholecystitis.**—Riedel calls attention to the unreliability of statistics in regard to the mortality of gallstone affections. When physicians are accustomed to refer all patients with inflammatory abdominal processes promptly to the surgeon, acute cholecystitis is seen to be a severe and threatening affection in a large proportion of cases. When the gall bladder is distended it should be removed, he says, before it bursts, or before a concrement in the neck of the bladder or in the cystic duct is forced into the common bile duct. Mild cholecystitis should be treated conservatively until the diagnosis is certain. If the general condition is good, an operation should then be proposed, as severe cholecystitis may develop any day. Out of 111 patients seen in 1905-6, not less than 6 were moribund when first seen, and 2 others were on the verge of perforation—all were suddenly developing acute cases. He thinks that the lessons learned from appendicitis apply also to cholecystitis.

115. **Prostatectomy Under Local Anesthesia.**—Lanz comments on the precarious condition of many patients with hypertrophy of the prostate. In 80 cases in his practice two of the patients died the night before the proposed operation. The slightest intervention in such cases is liable to be fatal. He regards perineal prostatectomy as altogether too severe an operation, and for two years has been using exclusively the transvesical technic, as much safer and quicker. General anesthesia is contraindicated in these old, more or less septic patients with their tendency to pneumonia. Lumbar anesthesia has rendered good service in twelve cases, but even this is liable to injure the kidneys, and he has lately found that the operation can be done with local anesthesia alone. In nine cases the suprapubic cystotomy was done under infiltration anesthesia with a 1 per cent. solution of cocain with a few drops of suprarenal extract. The prostate was easily shelled out without any further anesthetization; he was surprised at the absence of pain. Two other patients were so debilitated that he performed the operation in two sittings. The prostate was shelled out without any anesthetic, two days after the cystotomy, in one case; in the other the enucleation was not done for a week after the cystotomy. The patients complained only of the pressure of the surgeon's hand on the symphysis; there was no actual pain in the bladder or rectum. He gives a little brandy before the operation, and suggests that possibly the pronounced uremic condition may have cooperated in inducing this remarkable tolerance. In any event, the enucleation of the prostate could be rendered painless by an opium suppository in the rectum with local application of cocain, injected under control of the forefinger in the bladder. He would not advise operating at two sittings in ordinary cases, but only in the exceptional cases which are still considered as beyond relief or burden the conscience and throw discredit on the statistics of operations. He denounces in vigorous terms the use of the catheter, comparing it to probing a wound; the catheter signifies as a rule the end or the beginning of the end. Instead of using the catheter in cases of enlarged prostate he advocates transvesical prostatectomy as the routine procedure. Without general anesthesia it is no more dangerous than the use of the catheter, while it has the advantage of permanently curing the patient.

Fortschritte der Medizin, Leipsic.

May 20, XXVI, No. 1¼, pp. 417-446.

121 Treatment of Phlyctenular Ophthalmia. (Zur Phlyktänenbehandlung.) Reh.

Jahrbuch für Kinderheilkunde, Berlin.

May 1, LXVII, No. 5, pp. 513-640.

122 Influence of the Various Causes of Death on the Infantile Mortality in Norway. (Säuglingssterblichkeit Norwegens.) A. Johannessen.

123 *Causes of Greater Consumption of Matter in Childhood. (Ursachen des grösseren Stoffverbrauches im Kindesalter.) M. Kassowitz.
124 Atelectasis (Lungenatelektase.) J. Pelser.

123. **Causes of Greater Consumption of Matter in Childhood.**—Kassowitz has been making an extensive study of metabolism and catabolism in children in comparison with adults. He shows that the consumption of matter is influenced by various causes, and that the growth of the children is not such a preponderating factor as generally assumed. Among the other causes are the thermostatic function and the fact that each organism consists of two components, which are entirely distinct: the living, assimilating protoplasm and the non-vital elements and reserve substances. In the young the protoplasm preponderates, but with advancing years the metaplasm—the cellulose, starch, wood fiber, fat, silicates and other organic and inorganic deposits in plants, connective tissue, cartilage and elastic fibers, fat, lime and other organic and inorganic deposits in animals. This fact is sufficient to explain the active metabolism in young individuals aside from other considerations.

Medizinische Klinik, Berlin.

May 24, IV, No. 21, pp. 773-816.

125 Nutrition and Metabolism of Eye. (Ernährung und Stoffwechsel des Auges.) K. Wessely.
126 *Apparent Enlargement of Heart. (Scheinbare Vergrösserung des Herzens.) M. Herz.
127 *Treatment of Gouty Diathesis. (Uratdiathese.) G. Rosenfeld.
128 *Suction Hyperemia in Urology. (Anwendung der Bierschen Stauung in der Urologie.) E. R. W. Frank.
129 Vibratory Massage. Siebelt.
130 Supernumerary Bones in Wrist and Ankle and Sesamoid Bones in Roentgen Picture. (Ueberzählige Karpalia und Tarsalia, und Sesambeine im Röntgenbilde.) Taubert. Commenced in No. 19.
131 Differential Diagnosis of Pernicious Anemia. O. Stempelin. Commenced in No. 19.
132 Color Photography in Medicine. (Farbenphotographie nach Lumière.) P. Essau and G. Röver.

May 31, No. 22, pp. 817-854.

133 *Transplantation of Joints. (Gelenktransplantation.) F. Lexer.
134 *Suprarenals and Rachitis. (Nebennieren und Rachitis.) W. Stoeltzner. Commenced in No. 18.
135 Pepsin Content in Fasting Stomach. (Pepsingehalt des nüchternen Magens.) G. Lefmann.
136 Apparatus for Application of Cold and Its Use in Mastoid Inflammation. (Kühlapparat und seine Verwendung bei akuten Warzenfortsatzentzündungen.) K. Herschel.
137 Dermatitis from Plants, etc. (Interessante Fälle von "Dermatitis venenata.") V. Pflanz.
138 Advice to Nursing Women. (Ammen- und Mutterbrustbehandlung in der Praxis.) C. Stuhl.
139 Changes in Viscosity of Blood at High Altitudes. (Veränderung der Blutviskosität im Höhenklima.) Determann.

126. **Apparent Enlargement of the Heart.**—Herz believes that enlargement is frequently diagnosed when in reality it does not exist. It can not be too often reiterated, he asserts, that the assumption of heart disease is an important factor in producing disease in a previously sound heart and vascular system. He reviews the conditions liable to simulate enlargement of the heart. When for any reason the heart lies more horizontally, it always slides toward the left; the area of dulness and the apex beat suggest enlargement, and a systolic murmur corroborates this. These phenomena are probably caused by the kinking of the heart in respect to the ascending aorta and the eddy in the blood at the point of the kinking. The most common cause of this horizontal attitude of the heart is the pushing up of the diaphragm. The heart slips toward the left no matter whether the right or left side of the diaphragm is lifted. Many causes may push up the diaphragm, and it may induce a number of subjective symptoms and even lead to extrasystoles. An unduly long ascending aorta or a stooping attitude may favor the sliding of the heart toward the left. The displaced apex may return to its normal place when the patient is made to stand up straight as for a military salute. Malformation in the thorax may also simulate a dilated or hypertrophied heart, especially in persons who work stooping over, copyists, dentists, draftsmen and others. The abnormal contact of surfaces in these conditions causes peculiarly marked subjective symptoms. In case the muscles are unusually well developed while the chest is deep, the area of cardiac dulness may extend beyond the maxillary line and suggest hypertrophy. In obese persons it must not be forgotten that the dulness is the enlarged acoustic shadow of the heart, which is exceptionally far below the surface in these persons.

127. **Treatment of Uric Acid Diathesis.**—Rosenfeld's research and experience show that addition of sugar to a diet containing purin causes an increase in the amount of uric acid eliminated. He advises a few tests of the metabolism for each patient, to regulate the diet in accordance with the findings. In respect to medication he advocates the continuous use of urea. It limits the production of uric acid, he declares, and keeps the uric acid in the urine well dissolved. If the patient urinates in a cone of filtering paper the paper will be covered with granules of uric acid in extreme cases, but if these patients are taking daily from 10 to 15 gm. (150 to 225 grains) of urea the filter will be free from crystals. In one case the patient had clear urine under the urea treatment; it was then suspended for eight weeks, and 105 grains of uric acid crystals were collected on the filter in this period. On resumption of the urea the elimination of undissolved uric acid ceased at once. The urea causes no inconveniences of any kind, he says, not disturbing either the stomach or kidneys. Its only fault is that its action ceases with its discontinuance. He also ascribes great importance to glycerin. He does not attribute any concrement-expelling power to it, but believes that it washes out the uric acid retained in the urinary canals, not deposited, and that it arrests the pains induced by concrements in the kidneys. He prescribes it in the dose of 150 gm. for a man weighing 75 kilograms; that is, 2 gm. per kilo (about 14 grains for each pound of weight). The entire dose of 150 gm. is dissolved in tea, Seltzer water or milk, and taken in four portions at two-hour intervals. This dose is repeated on one day every fourth or sixth week, and in the intervals 10 or 15 gm. of urea are taken every day. He regards this glycerin-urea treatment as acomplishing all that can be expected until we discover some means of dissolving the concrements themselves.

128. **Suction Hyperemia in Urology.**—Frank has treated 60 patients with buboes by application of a cupping glass to induce suction hyperemia, and reports good results. He gives an illustration of the large cupping bell he uses; it fits over the region and can easily be applied by the patient himself. It is applied for twenty minutes every two hours, with or without incision. The pain of gonorrheal joint affections was always promptly arrested by constriction hyperemia, combined with superheated air. Several cases are described of genital tuberculosis in young men in which remarkable benefit was obtained with the cupping bell. In two of the cases no other measures except a mutilating operation could have been considered. He believes that artificially induced hyperemia, applied in time, will render the treatment of genital tuberculosis much more conservative and promising than has been the case hitherto. Small foci in the prostate, and perhaps also the seminal vesicles, are favorably influenced and heal under suction applied to the testicles. The method is also of service in hastening the healing of fistulous passages.

133. **Transplantation of Joints.**—Lexer's experiences with restoration of joint function by transplantation of part of a joint from an amputated limb have been previously mentioned in these columns. Even if only a hinge joint can be supplied, the functional results are excellent. One patient was a man of 38 with sarcoma of the tibia requiring resection of the upper third and of the articular cartilage. A corresponding piece from the tibia of a limb amputated from another man on account of senile gangrene was introduced in its place, and in three months the patient was using the leg almost normally, with no shortening. In another case the second toe from an amputated limb replaced a finger removed on account of chondroma. In a third, a girl of 19 had right-angled synostosis of the left knee after suppurative osteomyelitis. After resection of a wedge from the joint a gap was left of more than two inches between the tibia and femur. The knee from an amputated limb was implanted in this gap and the projecting epiphyses nailed to the bones. The patellar ligament was sutured to the periosteum and a fenestrated plaster cast applied. In the fifth week the *x*-rays

showed callus growing over the edges of the implanted epiphyses, and the leg was exercised. The patella grew to the bone beneath, and in the third month the flap was lifted and the patella was removed. Vital processes could be seen in the implanted tissues. Normal passive movements are possible but active movements are still defective as important muscles are lacking. Recently he raised the entire flap for the second time, and a piece of the tunica vaginalis, nearly six inches square, taken from a hydrocele being operated on at the same time, was transplanted with the raw side on that of the flap to which it was fastened. The upper edge was sutured to the periosteum over the upper epiphysis, and in such a way that a fold forms as the joint is used. The flap was then replaced without further fastening of the transplanted serosa. He thinks that this technic supplies a sufficient substitute for the capsule of the joint. A piece of omentum might be used for the serosa graft, and it might be implanted at the first operation or as a preliminary before the operation. He has never tried to implant an entire unopened joint in an adult for fear of necrosis, but he has done this on the knee of a child, transplanting the entire capsule and epiphyses, with excellent results to date. He does not approve of implanting substances foreign to the body, like celluloid, as they induce unwished-for reactions.

134. **Suprarenals and Rachitis.**—Stoeltzner presents arguments to prove that functional insufficiency of the suprarenals is the predominating factor in rachitis and osteomalacia. In animals and in man, he says, domestication, living indoors, is what paves the way for rachitis. The degeneration of the suprarenals may be the result of generations of unphysiologic minimal demands on the functioning of the striated musculature.

Monatsschrift für Geburtshülfe und Gynakölogie, Berlin.

May, XXVII, No. 5, pp. 554-680.

140 The So-called Decubitus with Prolapse. (Decubitusgeschwür beim Prolaps.) F. Kermauner.
141 *Successful Suggestive Treatment of So-called Uncontrollable Vomiting of Pregnancy. (Suggestiv-Behandlung der Hyperemesis gravidarum.) F. Schulte.

141. **Suggestion in Treatment of Vomiting of Pregnancy.**—Schulte states that at the clinic in Giessen, 18 cases of uncontrollable vomiting have been observed, and the patients were cured by suggestion. Various measures were used, all for the suggestive effect. In every case there was pronounced hysteria or nervousness accompanied by enhanced irritability of the sensory nerves. The patients were put to bed, on a liquid diet at first, sometimes with alimentary enemas; lavage of the stomach was done occasionally to impress the patients. One of the best measures was the suggestion of retroflexion of the gravid uterus. A sham correction of the retroflexion was then carried out and a pessary inserted for a few days. All the patients responded with prompt arrest of the hitherto incoercible vomiting. It was never found necessary to interrupt the pregnancy. In one case retroflexion actually existed and the vomiting ceased after it was corrected, but recurred when the pessary dropped out of the vagina, although the uterus was then in anteflexion. The vomiting ceased again when the pessary was replaced. Three of the patients had recurrence of the vomiting at different pregnancies, cured each time by the same measures. One patient had a recurrence of the vomiting after her return home, but suggestion by letter that the vomiting would cease in three days, when the menstrual period was over, proved effectual. It seems evident that the hyperemesis which is observed without an appreciable affection of any internal organ is a purely psychogenic symptom induced by the pregnancy, and consequently, curable by suggestion.

Münchener medizinische Wochenschrift.

May 19, LV, No. 20, pp. 1057-1112.

142 Histogenesis of Myeloid Leukemia. H. Schridde.
143 *Constriction Hyperemia in Meningitis. (Verwendbarkeit der Bierschen Stauung bei Hirnhautentzündungen.) H. Stursberg.
144 Hemolytic Complement in Human Milk. M. Pfaundler and E. Moro.
145 Specific Complement-Binding Substances in Blood Serum in Typhoid Bacilli Carriers. (Spezifische komplementbindende Stoffe im Blutserum von Typhusbazillenträgern.) C. Schöne.
146 New Clinical Opsonic Technic. (Opsoninbestimmung.) H. Kämmerer.
147 Clinical Importance of Cutaneous and Percutaneous Tuberculin Reaction in Adults. E. Emmerich.
148 Pathologic Anatomy of Relapsing Fever. M. Rabinowitsch.
149 Serum Treatment of Puerperal Fever. A. Müller.
150 Treatment of Acne rosacea. M. v. Zeissl.
151 Propaganda for Breast Nursing. Its Influence on Later Development of the Child. (Stillpraxis.) M. Nagel. Id. H. Lenk.
152 *Clinical Importance, Diagnosis and Treatment of Chronically Inflamed Tonsil Tissue. (Klinische Bedeutung des chronisch-entzündeten nicht hypertrophischen Gaumentonsillengewebes.) O. Muck.
153 *Idiosyncrasy to Eggs. (Fall von Idiosynkrasie gegen Hühnereiweiss.) P. Landmann.
154 Gelatin in Treatment of Hemorrhagic Diathesis in the Newborn. L. Grüneberg.
155 *Progress in Diagnosis of Brain Tumors. (Diagnostik der Gehirntumoren.) A. Knapp. Commenced in No. 19.

May 26, No. 21, pp. 1113-1160.

156 *Typhoid Bacilli in Blood in Absence of Typhoid Fever. (Vorkommen von Typhusbazillen im Blut von nicht typhuskranken Personen.) O. Busse.
157 Case of Congenital Word Blindness. A. Peters.
158 Serious Hemorrhage During Childbirth. (Beurteilung schwerer Blutungen unter der Geburt.) Schickele.
159 *Chronic Otitis Media. (Behandlung und Prognose der chronischen Mittelohreiterung.) A. v. Ruppert. Id. Suction Hyperemia. (Biersche Stauung bei Otitis media.) Stimmel.
160 The Vaccine Test by Subcutaneous Injection. (Vakzineprobe mittels subkutaner Injektion beim Kuhpockenkranken.) W. Knoepfelmacher.
161 Adhesions After Laparotomies. (Nachbehandlung Laparotomierter.) M. Jerüsalem.
162 Behavior of Lymph Glands in Joint Affections. (Verhalten der Lymphdrüsen bei manchen Gelenkaffektionen.) E. Plate.

143. **Constriction Hyperemia in Meningitis.**—Stursberg is assistant at Schultze's clinic at Bonn where he has been studying the influence on the cerebrospinal fluid of application of an elastic band to the neck. The results are not encouraging for use of this measure in meningitis.

152. **Clinical Importance of Inflamed Tonsils.**—Muck regards the tonsils as responsible for the recurrences of articular rheumatism, etc. In 50 cases of chronic tonsillitis, with plugs and pus in the tonsils, he found an apical affection in 27 per cent. He has devised a simple aspirating contrivance for evacuating the contents of the crypts in the tonsils. He calls it the "tonsil exhaust," and relates two cases to show its advantages for diagnosis and treatment, with an illustration of the aspirator. Recurring acute articular rheumatism vanished permanently after its application in these cases.

153. **Idiosyncrasy to Eggs and Alleged Meat Juice Preparations.**—Landmann has a patient, a man of 35, who has a marked idiosyncrasy to eggs, but is otherwise healthy. Ingestion of the slightest trace of egg albumin causes serious distress. The same distress followed the ingestion of a certain "meat juice" preparation. This experience was incomprehensible until a recent exposure of the meat juice preparation revealed that it was composed of meat extract and egg albumin.

155. **Brain Tumors.**—Knapp reviews recent progress in the diagnosis of brain tumors, citing concrete examples. He advises puncture of the brain to confirm or correct the diagnosis, repeating it at various points to determine the extent and nature of the tumor, the location, blood content and eventual secondary softening. During the operation several pathologists in the operating room itself should be constantly examining the character of the excised scraps of tissue in turn until, all around the tumor, the surgeon is working in sound tissue.

156. **Typhoid Bacilli in Blood in Non-Typhoid Affections.**—Busse was able to cultivate typhoid bacilli from the blood of four patients with a severe infectious disease, but no signs of typhoid during life or at autopsy. One was a patient with pneumonia, the others had miliary tuberculosis or phthisis. He thinks that such cases would be more numerous if sought for. The patients had probably been bacilli carriers. The cases show that typhoid does not develop in these bacilli carriers even when the bacilli get into the blood. They teach further that positive findings in respect

to typhoid bacilli in the blood are not decisive as to the presence of typhoid fever.

159. **Suction Hyperemia in Diseases of the Middle Ear.**—Stimmel has treated chronic otitis media in thirty cases with Bier's suction apparatus with marked improvement in the hearing in seven cases. The pus and fetor vanished and the mucosa healed. In fifteen other cases marked improvement was observed, but the present results are not known. In two other cases the process was evidently tuberculosis, but improvement was obtained. The ear affection had lasted for from two years to fifty, rebellious to all treatment. The suction bell was applied for from two to thirty-five times, at two or three day intervals, at first for ten minutes, and never for more than fifteen. He prefers a suction bell with a diameter of 5 cm., the suction only strong enough to cause distinct swelling of the ear, never pain in the interior of the ear. He never observed disagreeable by-effects. It is surprising, he says, the amount of pus or serum found in the ear after the suction. In very painful cases of furunculosis of the ear, a constricting band applied for six or eight hours during the day gives relief, but arteriosclerosis and enlargement of the tonsils contraindicate this measure. Caries and cholesteatoma also contraindicate suction treatment in middle ear disease.

Wiener klinische Wochenschrift.

May 14, XXI, No. 20, pp. 709-744.

163 Production of Antibodies Induced by Rectal Incorporation of Antigens, and Absorption of Antibodies Introduced into Rectum. (Erzeugung von Antikörpern durch rektale Einverleibung der Antigene und über die Resorption rektal eingebrachter Antikörper.) C. Sternberg.
164 Production of Toxin by Mold Fungi. (Ein in Schimmelpilzen vorkommendes Gift.) A. Sturli.
165 *Typhoid Fever Complicated with Gangrene of the Extremities. S. E. Biron.
166 Findings in Lymph Glands in Syphilis. (Lymphdrüsenbefunde bei kongenitaler und postfötaler Lues.) J. Bartel and R. Stein.
167 Mode of Action of Potassium Iodid. (Wirkungsweise des Jodkaliums.) J. Zwintz.
168 Apparatus for Determination of Fermentation in Stools. (Bestimmung der Stuhlgärung nach Schmidt-Strassburger.) H. Delug.
169 The Biuret Test for Pepsin in Stomach Content. (Biuretreaktion zum Nachweis des Pepsins im Mageninhalt.) E. Palier.
170 Ocular Tuberculin Reaction. (Ophthalmoreaktion.) J. Mitulescu.
171 Complement-Binding Test in Leprosy. (Anwendung der Komplement-bindungsreaktion auf Lepra.) E. Eitner.
172 Law of Action of Pepsin. (Gesetz der Pepsinwirkung.) E. Schütz.
173 Orthostatic Albuminuria. C. R. v. Stejskal and V. Blum.

May 21, No. 21, pp. 745-782.

174 *Serum Diagnosis of Syphilis. Its Practical Importance for Medicine. A. Wassermann. Id. Theoretical. H. Elias. E. Neubauer. O. Porges and S. Salomon.
175 Antagonism Between Sympathetic and Autonomous Nerves in Respect to Action of Certain Drugs and Their Influence on Internal Secretion. H. Eppinger, W. Falta and K. Rudinger.
176 Binding of Complement in Experimental Trypanosomiasis. O. Hartoch and W. Yakimoff.
177 Behavior of Hemotropins of Immunized Guinea-pigs and Their Young. M. Sohma.
178 *Functional Kidney Tests. (Zur funktionellen Nierendiagnostik.) R. Lenk.

165. **Gangrene of the Extremities in Typhoid Fever.**—Biron has found 11 cases of this complication of typhoid in Russian literature, and adds another to the list. With two exceptions the patients were between 18 and 25. In his patient the gangrene of the right foot and thigh developed at the commencement of the third week of a mild typhoid fever. He ascribes the gangrene to thrombosis due to arteritis or spasm of the vessels. Both the typhoid bacilli and their toxins may participate in the production of the arteritis. The thrombosis may be favored by disturbance in the general circulation from myocarditis, paralysis of the vagus center, disturbance in the automatic ganglia of the heart or in the coronary arteries or by increased coagulability of the blood and lowered resistance of the tissue cells from toxic and trophic influences. He remarks in conclusion that arteritis not leading to gangrene is frequently overlooked, but undoubtedly contributes to the later development of arteriosclerosis, aneurism, etc., after typhoid and other infectious diseases.

174. **Serum Diagnosis of Syphilis.**—This communication was presented at the recent congress for internal medicine at Vienna, and in it Wasserman announced that the serum diagnosis of syphilis, by the complement-binding method with aqueous or alcoholic extracts of syphilitic organs, is reliable in the clinic, and is now ripe for general adoption.

178. **Functional Kidney Tests.**—Lenk reports from Hochenegg's clinic at Vienna a few cases of kidney affections in which the phloridzin test gave misleading findings, sometimes indicating normal conditions when the kidney proved to be seriously diseased, while in other cases the test indicated advanced disease when the kidney proved to be functionally capable as soon as reflex disturbance subsided.

Zentralblatt für Chirurgie, Leipsic.

May 16, XXXV, No. 20, pp. 609-632.

179 *Sensibility of Abdominal Organs. (Sensibilität der Bauchorgane.) C. Ritter.
180 *Treatment of Acute Suppurating Osteomyelitis. S. Rolando.

May 23, No. 21, pp. 633-664.

181 Operative Treatment of Invagination of Descending Colon. C. Longard.
182 *Retention Catheterization of Ureters in Surgical Treatment of Various Bladder Affections and Hypertrophy of the Prostate. (Dauerkatheterismus der Ureteren.) L. Cardenal.

May 30, No. 22, pp. 665-696.

183 Influence on Course of Chloroform Anesthesia of Covering Mask with Towel. (Welchen Einfluss hat das Ueberdecken der Maske mit einem Handtuche auf den Verlauf der Chloroformnarkose?) C. Hofmann.
184 *Apparatus for Overpressure. (Einfacher Apparat zur Ueberdrucknarkose.) M. Tiegel.

179. **Sensibility of the Abdominal Organs.**—Ritter reports extensive research on dogs and rabbits, which shows that the abdominal organs are not so free from sensibility as Lennander announced. The ligation of the vessels in the abdominal cavity seems to be the touchstone for the degree of sensitiveness.

180. **Treatment of Acute Suppurative Osteomyelitis.**—Rolando has treated a number of patients between 6 and 18 with hematogenous osteomyelitis, and has obtained the best results by trephining at the lowest point of the suppuration, thus allowing free escape to the pus. A preliminary skiagram will determine the exact location of the focus. It is unnecessary to open up the focus, he says, further than to allow its evacuation by the trephine.

182. **Retention Catheterization of Ureters in Bladder Affections, Etc.**—Cardenal writes from Madrid to endorse the advantages of leaving a retention catheter in each ureter when it is advisable to keep the bladder dry for a few days after operations, removal of stones, enucleation of the prostate, etc. His experience shows that the catheters can be left for nine days without complication, and he thinks that they might be left for two weeks. The results of intravesical intervention are much better when the bladder can thus be kept dry to permit primary healing.

184. **Apparatus for Overpressure.**—Tiegel's apparatus is illustrated as he has used it in a number of operations on the lungs, heart or esophagus. There was no collapse of the lungs. The patient kept on breathing quietly and regularly although the pleural cavity was opened for more than an hour in some cases. The apparatus consists merely of a small mask, a rubber balloon, the tank of oxygen or compressed air, and a water jar. There is nothing to interfere with the work of the anesthetist or operator.

Zentralblatt für Gynäkologie, Leipsic.

May 16, XXXII, No. 20, pp. 641-688.

185 *Delivery by the "Uterus-Abdominal Wall Fistula." (Entbindung durch die "Uterusbauchdeckenfistel.") H. Sellheim.
186 Technic and Results of Pubiotomy. (Hebosteotomie.) H. Ehrlich.
187 *Childbirth with Double Uterus. (Geburt bei Doppelmissbildung der weiblichen Genitalien.) O. Henrich.
188 *Convoluted Uterus. (Der schneckenförmige Uterus.) L. M. Bossi.
189 Decapsulation of Kidneys in Eclampsia. (Nierendekapsulation bei Eklampsie.) E. Haim.
190 *Tonic Action of Sodium Saccharate-Salt Solution by the Rectum. (Die rektale Instillation mit Natriumsaccharat-Kochsalzlösungen.) Schücking.
191 Spring Curette. (Federcurette.) J. Rudolph.

185. **Delivery by the "Uterus-Abdominal Wall Fistula."**—Sellheim has been seeking for a technic of extraperitoneal incision of the uterus which would be safe even for infected cases. He thinks he has accomplished this by what he calls "*Uterusbauchdeckenfistel*," which aims to deliver the febrile parturient through a small opening in the abdominal wall, the abdominal cavity and the pelvic cellular tissue being thoroughly protected. The main point is to incise the abdominal wall and the wall of the uterus at a point where they correspond, and where this correspondence can be maintained even during involution of the uterus. This is possible with a median sagittal incision immediately above the symphysis. The parietal peritoneum is sutured carefully to the edges of the incision in the skin. The abdominal cavity is shut off by suturing the parietal and uterine peritoneum. The uterine peritoneum and the reflection over the bladder are mobilized on each side, and the edges sutured to the skin around the incision, where the parietal peritoneum is already fastened. The bladder is pushed to one side. By carefully incising the wall of the uterus the outer layers can be seized and brought up outside the cutaneous incision. After opening into the cavity of the uterus and wiping the edges of the wound, they are seized with forceps and drawn outside the abdominal wound. The edges of the uterine wound thus drawn out are pulled down over the edges of the abdominal wound on all sides and held with forceps. The tissues here are so elastic that the child can be extracted without their tearing. After the extraction of the child, the turned-over edges of the uterine wound are fastened to the skin. The fistula rapidly heals. In the case described, by the fifth day nothing was left of the opening except a hole 5 cm. in diameter, surrounded by a ring of uterus wall about 1 cm. thick. The patient was allowed to get up early, even although the uterine cavity was secreting considerably and there was slight superficial suppuration at the edge of the fistula. The uterus wall was sutured the eighteenth day, and the patient was discharged with restored working capacity the fifth week, with a healthy child.

187. **Childbirth with Double Uterus.**—A iii-para, 24 years old, was in labor for a week. Finally the contractions became more vigorous and the child was rapidly expelled. Manual loosening of the placenta led to the discovery of a double uterus; the walls were remarkably thin and the second uterus had participated in the formation of decidua; its cervix was also dilated.

188. **Convoluted Uterus.**—Bossi has found in a number of cases that dysmenorrhea, nervous disturbances and sterility are the result of the curving of the cervix of the uterus back on itself, thus presenting the shape of a convoluted seashell. The condition causes a tendency to painful menstruation, leucorrhea, hysteria and chloroanemia in the unmarried, and endometritis and sterility in the married. He treats it by cutting off the curved part of the cervix. He sometimes performs a plastic operation or uses his intrauterine pessary. Experience with 200 cases has shown, he says, that this pessary answers every purpose while it causes no disturbances even when left in place for 15 or 20 days.

190. **Stimulating Effect of Rectal Injection of an Infusion of Sodium Saccharate.**—Schücking's favorable experiences with infusion of sodium saccharate have been mentioned in THE JOURNAL. When haste is not necessary, rectal instillation is preferable. The effect on the vascular system and intestine of rectal infusion of a 0.3 per cent. solution of sodium saccharate and 0.7 per cent. salt solution is remarkable in septic conditions. It raises the blood pressure and improves the circulation in general while putting an end to atony of the intestine in puerperal peritonitis without inducing a tendency to diarrhea. He allows only a drop at a time to enter. When designed to stimulate the vascular system, he instils the fluid an hour at a time, but in case of intestinal atony, he keeps up the instillation for 24 hours, using in this time 2 or 3 liters of the fluid. The sodium saccharate seems to have a direct influence on the metabolism and the functioning of the musculature of the bowels.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

OUTLINES OF PHYSIOLOGY. By Edward Groves Jones, A.B., M.D., Professor of Surgery in Atlanta School of Medicine, and Robert Grier Stephens, A.B., M.D., Instructor in Physiology in the Atlanta School of Medicine. Second Edition, Revised. Pp. 383, with Illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

A MANUAL FOR MIDWIVES. By C. Nepean Longridge, M.D. (Vict.), F.R.C.S. (Eng.), M.R.C.P. (Lond.), Late Resident Medical Officer at Queen Charlotte's Hospital. Cloth. Pp. 309, with Illustrations. Price, $1.40. Philadelphia: P. Blakiston's Son & Co., 1908.

A SHORT PRACTICE OF MIDWIFERY. By Henry Jellett, B.A., M.D. (Dublin University), F.R.C.P.I., Ex-Assistant Master, Rotunda Hospital. Fifth Edition, Revised. Cloth. Pp. 645, with Illustrations. Price, $4.20. Philadelphia: P. Blakiston's Son & Co., 1908.

THE NEWER REMEDIES. By Virgil Coblentz, A.M., Phar.M., Ph.D., F.C.S. Professor of Chemistry in Columbia University, Department of Pharmacy. Fourth Edition, Revised and Enlarged. Cloth. Pp. 133. Boston: The Apothecary Publishing Co., 1908.

DISEASES OF THE NERVOUS SYSTEM. By H. Campbell Thomson, M.D. (Lond.), F.R.C.P., Dean of and Medical Tutor in the Middlesex Hospital. Cloth. Pp. 480, with Illustrations. Price, $2.75. Chicago: W. T. Keener & Co., 1908.

MEAT AND FOOD INSPECTION. By Wm. Robertson, M.D., D.P.H.F.P.S., Lecturer on Public Health, Royal College for Surgeons, Edinburgh. Cloth. Pp. 372, with Illustrations. Price, $3.50. Chicago: W. T. Keener & Co., 1908.

ELECTRICAL TREATMENT. By Wilfred Harris, M.D., F.R.C.P., Physician to the Department for Nervous Diseases, St. Mary's Hospital. Limp Cloth. Pp. 383, with Illustrations. Price, $2.25. Chicago: W. T. Keener & Co., 1908.

INSOMNIA AND NERVE STRAIN. By H. S. Upson, M.D., Attending Neurologist to the Lakeside Hospital, Cleveland, Ohio. Cloth. Pp. 142, with Skiagraphic Illustrations. Price, $1.50. New York: G. P. Putnam's Sons, 1908.

STATE CHILDREN RELIEF BOARD. Report of the President, the Hon. C. K. Mackellar, M.B., C.M., M.L.C., Etc., for the Year Ending April 5, 1907. Paper. Pp. 55. Sidney: William Applegate Gullick, Government Printers, 1907.

THE LAW OF PSYCHIC PHENOMENA. By Thomas Jay Hudson, Ph.D., LL.D., Author of "A Scientific Demonstration of the Future Life," etc. Cloth. Pp. 409. Price, $1.50. Chicago, A. C. McClurg & Co., 1908.

LECTURES OF THE CHAUTAUQUA SCHOOL OF NURSING. Vol. 1. Studies in General Nursing. Vol. 2. Obstetrical and Surgical Nursing. Vols. 1 and 2. Cloth. Jamestown, N. Y.: Chautauqua School of Nursing.

SUBCUTANEOUS HYDROCARBON PROTHESES. By F. Strange Kolle, M.D., Author of "The Recent Röntgen Discovery," Etc. Cloth. Pp. 153, with Illustrations. Price, $2.50. New York: The Grafton Press.

THE AIX-LES-BAINS THERMAL TREATMENT. By H. Forestier, M.D., Fellow of the Royal Society of Medicine, London. Cloth. Pp. 65. Price, 60 cents. Philadelphia: P. Blakiston's Son & Co., 1908.

PHARMACOLOGY. By Maurice Vejux Tyrode, M.D., Instructor of Pharmacology in the Medical School of Harvard University. Cloth. Pp. 255. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

RELIGION AND MEDICINE. By Elwood Worcester, D.D., Ph.D., Samuel McComb, M.A., D.D., and Isador H. Coriat, M.D. Cloth. Pp. 427. Price, $1.50. New York: Moffat, Yard & Co., 1908.

FOURTH ANNUAL REPORT OF THE NEW YORK STATE EDUCATION DEPARTMENT, for the Year Ending July 31, 1907. Cloth. Pp. 674. Albany: New York State Education Department, 1908.

DEN STRIKTURERENDE TYNDTARMTUBERKULOSE Og Dens Kirurgiske Behandling. By Dr. Johan Nicolaysen. Paper. Pp. 65, with Illustrations. Christiana: Steen'ske Bogtrykkeri, 1908.

ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA, 1906. Cardboard. Pp. 144. Calcutta: Superintendent of Government Printing, 1908.

THE LAW OF MENTAL MEDICINE. By Thomas Jay Hudson, Ph.D., LL.D. Cloth. Pp. 281. Price, $1.50. Fourth Edition. Chicago: A. C. McClurg & Co., 1905.

HISTORY OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK. By James F. Walsh, M.D., Ph.D., LL.D. Cloth. Pp. 207. Published by the Society, 1907.

UEBER ARTERIOSKLEROSE. By Dr. med. O. Burwinkel, Bad Nauheim. Paper. Pp. 23. Price, 18c. München: Verlag der Aerztlichen Rundschau, 1908.

SEX OF OFFSPRING. By Frank Kraft, M.D., Editor of American Physician. Cloth. Pp. 112. Price, $2.00. Cleveland, Ohio: B. Barsuette, Publisher.

ZUR ERNÄHRUNGSLEHRE. By Sanitätsrat Dr. Stille, In Stade. Paper. Pp. 28. Price, 18c. München: Verlag der Aerztlichen Rundschau, 1908.

DIE PANIK IM KRIEGE. By Oberst a. D. Emil Pfülf. Paper. Pp. 71. Price 30 cts. München: Verlag der Aerztlichen Rundschau, 1908.

NEUROGRAPHS. Edited by William Browning, Ph.B., M.D. Vol. 1, No. 2. Paper. Pp. 164. Brooklyn: A. T. Huntington, 1908.

FOOD AND DRUG LAW OF LOUISIANA. Paper. Pp. 68. Press of Palfrey-Rodd-Pursell Co., Ltd., 1908.